ExamView Test Generator

User Guide

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TURNING technologies

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Contents

About ExamView® Test Generator

ExamView® Test Generator allows for the quick creation of paper, internet and online (LAN-based) tests. You can enter your own questions and customize the appearance of tests. With its many unique features, such as the QuickTest Wizard, you can create and format a test in minutes.

The following features are available in ExamView Test Generator:

- "Interview" mode or a "wizard" to guide you through the steps to create a test in less than five minutes
- Six methods to select test questions:
  - from a list
  - random selection
  - by criteria (difficulty code, objective, etc.—if available)
  - while viewing questions
  - by standard (learning objective, national, state, and local—if available)
  - all questions
- Capability to edit questions or to add an unlimited number of questions
- Online (LAN-based) testing
- Sophisticated word processor
- Numerous test layout and printing options
- Dynamic questions (algorithms)
- Ability to link groups of questions to common narratives
- Password protection
- Spell checker with custom dictionary

This chapter covers the following topics:

Technical Requirements
Getting Started

Technical Requirements

The following software and hardware specifications are required before using the ExamView Assessment Suite:

PC

- Microsoft Windows 7 and Windows 8 and Windows 10 (32 or 64 bit)
- Intel® Pentium® dual-core processor, 2 GHz or higher (or equivalent)
- 2 GB RAM
- 500 MB hard disk space
- Monitor capable of displaying 1024 x 768 or higher resolution
- An active internet connection to access your Turning Account, to utilize the content update feature and to publish an HTML test

Mac

- Mac OS versions 10.9, 10.10 and 10.11
- Intel® processor 2 GHz or higher (or equivalent)
- 32 or 64-bit Kernel and Extensions
- 2 GB RAM
- 300 MB hard disk space
- Monitor capable of displaying 1024 x 768 or higher resolution
- An active internet connection to access your Turning Account, to utilize the content update feature and to publish an HTML test

Getting Started

This section covers the following topics:

Installing the ExamView Assessment Suite Software
Welcome Screen
Switching Between the Test Builder and the Question Bank Editor

Installing the ExamView Assessment Suite Software

The ExamView Assessment Suite software includes the Test Generator, Test Manager and Test Player.

> **NOTE**
> If you received the ExamView Assessment Suite software from a publisher, the installer automatically copies the publisher-supplied question banks to a new folder within the Banks folder. It may install an additional Publish folder for storing files that are needed for publishing questions to the publisher-hosted server.

1 To install the program, follow the on-screen prompts.

> **NOTE**
> The program installs the program to these paths:
> PC - C:\Program Files\eInstruction\ExamView OR
> C:\Program Files (x86)\eInstruction\ExamView
> Mac - HD:\Applications\eInstruction\ExamView

> **NOTE**
> If you have a later version of ExamView on your computer, the installer will automatically install all ExamView content (question banks and tests) in the correct folders.

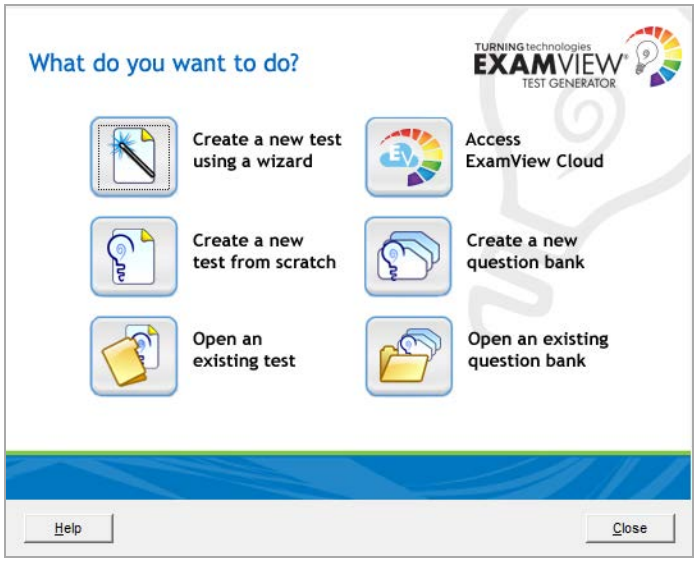
Next Steps

The first time you open the software, you are prompted to enter your name, school/organization name, city and state. This information is used to help identify the files you create. Enter as much information as possible.

Each time you open the ExamView Test Generator software, the *Welcome* screen is displayed. You can choose to create a test using the ***The Test Builder*** on page 14 or enter your own questions using the ***Question Bank Editor*** on page 44.

Welcome Screen

Each time the ExamView Test Generator software is opened, the program displays the *Welcome* screen. Use the *QuickTest Wizard* or the *Test Builder* options to create a test. If you want to edit or add questions in a question bank (or database), use the *Question Bank Editor*.



The *Welcome* screen includes the following options:

Create a new test using a wizard

Select this option to access the QuickTest Wizard. The wizard provides step-by-step instructions for building a test.

Create a new test from scratch

Select this option to create a new test from scratch. The program will start the Test Builder, prompt you for a test title, and display a new (blank) test.

Open an existing test

This option allows you to print a test or edit/add questions to a test that you previously saved. The program opens the Test Builder and displays a dialog box from which to locate and choose a test file.

Access ExamView Cloud

This option directs you to Turning Account (a free, unique identifier that is used to tie together all software accounts and response devices). Sign in with your Turning Account to access ExamView Cloud.

Note: You will need a special license to access ExamView Cloud.

Create a new question bank

Select this option if you want to create a new question bank from scratch. You can add up to 250 questions of varying types.

Open an existing question bank

Select this option to edit or add questions in a question bank. You can edit questions in the publisher-supplied banks or in any user-created question bank. Open a question bank file and then select the Question Bank Editor options to edit questions, add new questions or delete questions from the bank.

TIP
To customize the startup options, click **Edit** from the menu bar and select **Preferences**.

Switching Between the Test Builder and the Question Bank Editor

The Test Builder and the Question Bank Editor are separate parts (or modules) of the ExamView Test Generator program. The active module name is displayed in the title bar of the main ExamView window following the active file name.

1. Save the current test or question bank.
2. Click **File** and select **Switch to Question Bank Editor** or **Switch to Test Builder**.
3. Open or create a new test/question bank.

The Test Builder

This chapter covers the following topics:

Question Types
Test Builder Basics
Question Selection Methods
Customizing the Appearance of a Test

Question Types

ExamView supports the following question types:

True/False

1. Select a **true/false question** and click **Edit**, or click **New** and select **True/False** to create a new question.
2. Enter the **question** in the *Question* area.
3. Click the *Answer* drop-down menu to select **True** or **False**.
4. Optionally, enter an **answer explanation** in the *Rationale* area.
5. Optionally, click **Info** and then enter the **question information**.
6. Optionally, click **Edit** from the menu bar and select **Add Feedback** to add feedback.
7. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
8. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Modified True/False

A modified true/false question is similar to a standard true/false question, in that a student must indicate if a sentence or phrase is true or false. For these kinds of questions, a student must also change or edit the question if it is false to make it true.

> **NOTE**
> For internet tests, modified true/false questions can be scored only if there is one word or phrase to enter.

1. Select a **modified true/false question** and click **Edit**, or click **New** and select **Modified True/False** to create a new question.
2. Enter the **question** in the *Question* area.

   When you enter a modified true/false question, identify the word or phrase that needs to be modified. Also, provide an underscore for the student to write their answers.

EXAMPLE
ExamView allows for *three* question types.

ANS: F, thirteen

3 Click the *Answer* drop-down menu to select **True** or **False**.
4 If the answer if false, switch to the *Answer* area by clicking in the area or by pressing Alt+A (PC) or Option+A (Mac) and **enter the correct response**.
5 Optionally, click **Info** and then enter the **question information**.
6 Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
7 Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

TIP
Click **View** from the menu bar and select **Ruler** to display a ruler while entering a question. You can also change the space shown for the *Question* and *Answer* entry areas. Position the mouse pointer on the border between the two entry areas. When the mouse pointer changes to a resize cursor, drag the border to change the size as desired.

Multiple Choice

1 Select a **multiple choice question** and click **Edit**, or click **New** and select **Multiple Choice** to create a new question.

TIP
If you copied a multiple choice question and answers from another source, you can press F7 (PC) or Cmd+P (Mac) to use the Smart Paste feature rather than the normal Paste feature, Ctrl+V (PC) or Cmd+V (Mac). ExamView Test Generator automatically formats the question when it pastes the text into the entry area.

EXAMPLE
Copy a multiple choice question and its choices from a word processing document. Create a new multiple choice question and press F7 (PC) or Cmd+P (Mac). ExamView will paste the question text and then automatically paste each choice into the corresponding table cell.

2 Click the *Choices* drop-down menu to select the **number of available choices**, and click the *Columns* drop-down menu to select the **number of columns**.
3 Enter the **question** in the *Question* area.
4 Select a cell in the table and enter the answer choices. Depending on the preference setting, you can press **Tab** to move from the question stem to the choices.
5 Select the appropriate **radio button for the correct answer**.
6 Click the *Scramble* drop-down menu and set the option accordingly if your answer choices include any of the following: **All of the above**, **None of the above**, or **Both A and B**. Since ExamView Test Generator gives you the option to scramble answer choices when you print a test, you need to identify any choices that should not be moved.
7 Optionally, enter an **answer explanation** in the *Rationale* area.

8. Optionally, click **Info** and then enter the **question information**.
9. Optionally, click **Edit** from the menu bar and select **Add Feedback** to add feedback.
10. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
11. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- You should limit the size of a question to one page or less.
- The default number of choices and columns is set in the *Preferences*.
- The program does not allow you to resize the answer choice table, delete a row/column in the table, or enter text after the choices.
- To insert a tab character in a cell, press Ctrl+Tab.
- You can insert a picture, such as an equation or another image, in a question or in a cell by clicking Insert and selecting Picture. For best results, use only small images in table cells.
- If you reduce the number of choices, the correct answer is moved (if necessary) to one of the remaining choices.
- You can also adjust the column layout while viewing a test that includes at least one multiple choice or multiple response question. Click Question from the menu bar and select Adjust Choices/Columns to access this option.

Multiple Response

1. Select a **multiple response question** and click **Edit**, or click **New** and select **Multiple Response** to create a new question.

> **TIP**
> If you copied a multiple response question (including the question and choices) from another source, you can press F7 (PC) or Cmd+P (Mac) to use the Smart Paste feature rather than the normal Paste feature, Ctrl+V (PC) or Cmd+V (Mac). ExamView Test Generator automatically formats the question when it pastes the text into the entry area.

> **EXAMPLE**
> Copy a multiple response question and its choices from a word processing document. Choose to create a new multiple response question and press F7 (PC) or Cmd+P (Mac). ExamView will paste the question text and then automatically paste each choice into the corresponding table cell.

2. Click the *Choices* drop-down menu to select the **number of available choices** and click the *Columns* drop-down menu to select the **number of columns**.
3. Enter the **question** in the *Question* area.
4. Select a **cell** in the table and enter the answer choices. Depending on the preference setting, you can press **Tab** to move from the question stem to the choices.
5. Select the appropriate **radio buttons for the correct answers**.
6. Click the *Scramble* drop-down menu and set the option accordingly if your answer choices include any of the following: **All of the above**, **None of the above**, or **Both A and B**. Since ExamView Test Generator gives you the option to scramble answer choices when you print a test, you need to identify any choices that should not be moved.

7. Optionally, enter an **answer explanation** in the *Rationale* area.
8. Optionally, click **Info** and then enter the **question information**.
9. Optionally, click **Edit** from the menu bar and select **Add Feedback** to add feedback.
10. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
11. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- You should limit the size of a question to one page or less.
- The default number of choices and columns is set using the Preferences command.
- The program does not allow you to resize the answer choice table, delete a row/column in the table, or enter text after the choices.
- To insert a tab character in a cell, press Ctrl+Tab.
- You can insert a picture, such as an equation or another image, in a question or in a cell by using the Insert, Picture command. For best results, use only small images in table cells.
- If you reduce the number of answer choices, the program will make sure that the correct answer is moved (if necessary) to one of the remaining choices.
- You can adjust the column layout while viewing a test that includes at least one multiple choice or multiple response question. Select Adjust Choices/Columns from the Question menu to access this option.
- For online tests, you can select whether or not to allow partial credit when a multiple response question is not answered entirely correctly. To calculate partial credit, ExamView takes the number of correct responses and subtracts the number of incorrect responses.

> **EXAMPLE**
> Suppose the correct answer to a question is ABC and the question is worth 10 points. If the student answers ABCD, they will receive 6.67 points. This is calculated by subtracting the 1 incorrect response (D) from the 3 correct responses (ABC) to come up with 2. Since the correct answer has 3 choices, the student earns 2/3 credit. Two-thirds of 10 points is 6.67.

Bimodal

A bimodal question is a question that can be displayed as either a multiple choice or a short answer question. Bimodal questions give you more flexibility when building a test. For example, with a single click of the mouse you can increase the difficulty level of a test by changing all multiple choice questions to short answer.

The default question type for a Bimodal question is Multiple Choice. Once the question has been entered you can use the bimodal icon on the toolbar to switch the question type to Short Answer.

1. Select a **bimodal question** and click **Edit**, or click **New** and select **Bimodal** to create a new question.

> **TIP**
> If you copied a multiple choice question (including the question and choices) from another source, you can press F7 (PC) or Cmd+P (Mac) to use the Smart Paste feature rather than the normal Paste feature, Ctrl+V (PC) or Cmd+V (Mac). ExamView Test Generator automatically formats the question when it pastes the text into the entry area.

> **EXAMPLE**
> Copy a multiple choice question and its choices from a word processing document. Create a new multiple choice question and press F7 (PC) or Cmd+P (Mac). ExamView will paste the question text and then automatically paste each choice into the corresponding table cell.

2. Select the **number of available choices** from the *Choices* drop-down menu, and select the **number of columns** from the *Columns* drop-down menu.
3. Enter the **question** in the *Question* area.
4. Select a cell in the table and enter the answer choices. Depending on the preference setting, you can press **Tab** to move from the question stem to the choices.
5. Select the appropriate **radio button for the correct answer**.
6. Click the *Scramble* drop-down menu and set the option accordingly if your answer choices include any of the following: **All of the above**, **None of the above**, or **Both A and B**. Since ExamView Test Generator gives you the option to scramble answer choices when you print a test, you need to identify any choices that should not be moved.
7. Optionally, enter an **answer explanation** in the *Rationale* area.
8. Optionally, click **Info** and then enter the **question information**.
9. Optionally, click **Edit** from the menu bar and select **Add Feedback** to add feedback.
10. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
11. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- You should limit the size of a question to one page or less.
- The default number of choices and columns is set using the Preferences command.
- The program does not allow you to resize the answer choice table, delete a row/column in the table, or enter text after the choices.
- To insert a tab character in a cell, press Ctrl+Tab.
- You can insert a picture, such as an equation or another image, in a question or in a cell by using the Insert, Picture command. For best results, use only small images in table cells.
- If you reduce the number of choices, the program will make sure that the correct answer is moved (if necessary) to one of the remaining choices.
- You can also adjust the column layout while viewing a test that includes at least one multiple choice or multiple response question. Select Adjust Choices/Columns from the Question menu to access this option.
- You can change an existing multiple choice question to a bimodal question using the Change Type command.

Yes/No

1. Select a **Yes/No question** and click **Edit**, or click **New** and select **Yes/No** to create a new question.
2. Enter the **question** in the *Question* area.
3. Click the *Answer* drop-down menu to select **Yes** or **No**.
4. Optionally, enter an **answer explanation** in the *Rationale* area.
5. Optionally, click **Info** and then enter the **question information**.
6. Optionally, click **Edit** from the menu bar and select **Add Feedback** to add feedback.
7. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
8. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Numeric Response

The numeric response question type is best suited for questions for which the answer is a number. Use the problem question type when students must show their work.

1. Select a **numeric response question** and click **Edit**, or click **New** and select **Numeric Response** to create a new question.
2. Enter the **question** in the *Question* area.
3. Switch to the *Answer* area by clicking in the area or by pressing Alt+A (PC) or Option+A (Mac) and enter the correct response.
   If you plan to use internet or LAN-based online testing, limit the answer to numeric values only including the digits 0-9, comma, period, and negative sign (e.g., 1,200, 12.5, -37.4, 1000, etc.). You may include fractions (e.g., 5/3) in your answer; however, you may not include mixed fractions (e.g., 1 2/3).
4. Click the *Grid type* drop-down menu to select the **grid type**.
5. Optionally, click **Info** and then enter the **question information**.
6. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
7. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- You should limit the size of a question to one page or less.
- For online tests, numeric response questions can be scored only if there is one correct response and it is limited to symbols and digits (e.g., $5,100.00 or 3.1456).
- You may check the Require answer to match exactly option within the question information for numeric response questions if you want to limit how students can answer numeric response questions in online tests. For example, if the answer to a numeric response question is .33333 in an online test, the ExamView Test Player might accept .333, .3333, or 1/3 as correct answers. If the Require answer to match exactly option is selected, only .33333 would be accepted as a correct answer.

Matching

A matching group consists of the choices (or a picture with choices) and the corresponding questions. When you create a test, you can select all or some of the questions from a group. All of the choices are shown in the test regardless of how many of the

questions you select. Matching groups are independent of one another. That is, you cannot combine questions from one group with the questions and choices of another group.

If you selected matching questions for your test using the QuickTest Wizard, you may be asked to specify the number of matching groups.

> **EXAMPLE**
> For example, suppose you requested eight matching questions and there are two matching groups, each with 10 questions, in the question bank. You can select all eight questions from one group or have the wizard select the questions from both groups.

1. Select a **matching question** and click **Edit**, or click **New** and select **Matching** to create a new question.
2. Click the **Questions** box to set the number of questions (1-26) in the matching group.
3. Optionally, set the **number of columns** (1 or 2) for the matching choices.
4. Click the *Choices* drop-down to select the **number of choices** (None or a-z).
5. Enter an **instruction line** in the main *Matching* entry area above the table, if appropriate.

> **EXAMPLE**
> Enter *Match each correct item with the statement below.*

6. Enter the **choices** in the corresponding fields. If you want to use a picture instead of text choices, make sure that the number of choices is set to *None*. Then use the Insert, Picture command to insert a picture.
7. Enter the **answers** and **questions**.
8. Optionally, click **Info** and then enter the **question information**.
9. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- Click View and select Show Ruler to display a ruler. You can also change the space shown for the Question and Answer entry areas. Position the mouse pointer on the border between the two entry areas. When the mouse pointer changes to a resize cursor, drag the border to change the size as desired.
- The default number of questions, choices and columns is set using the Preferences command.
- You should limit the size of a question to one page or less.
- The number of choices does not have to equal the number of questions.
- The program does not allow you to resize the question/answer choice tables or delete a row/column in either of these tables except by using the Choices/Questions boxes.
- If you plan on exporting to a Blackboard LMS, please note that you can only have 20 matching questions in your test.
- In the Question/Answer entry area, you can enter text only in the cells (fields) provided except for an instruction line above the choices.
- To insert a tab character in a cell, press Ctrl+Tab.
- You can insert a picture in a cell by using the Insert, Picture command.

Completion

1. Select a **completion question** and click **Edit**, or click **New** and select **Completion** to create a new question.
2. Enter the **question** in the *Question* area.

> **TIP**
> Manually enter the answer space for the student to write his/her answer. Make the underline space large enough to accommodate the answer (e.g., The _____ is an excellent tool.)

3. Switch to the *Answer* area by clicking in the area or by pressing Alt+A (PC) or Option+A (Mac) and enter the **correct response**.
4. Optionally, click **Info** and then enter the **question information**.
5. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
6. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- Click View and select the Ruler option to display a ruler. You can also change the space shown for the Question and Answer entry areas. Position the mouse pointer on the border between the two entry areas. When the mouse pointer changes to a resize cursor, click and drag the border to change the size as desired.
- You should limit the size of a question to one page or less.
- You can enter alternative answers for completion questions. For example, enter mouse and trackball on separate lines in the Answer section. For online tests, the program will accept either response as correct.
- If you create a completion question with more than one write-on line, you will not be able to use that question in an online test. For an online test, completion questions are limited to one input field per question.

Short Answer, Problem, Essay, Case and Other

1. Select a **question** and click **Edit**, or click **New** and select **Short Answer, Problem, Essay, Case** or **Other** to create a new question.
2. Enter the **question** in the *Question* area.
3. Switch to the *Answer* area by clicking in the area or by pressing Alt+A (PC) or Option+A (Mac) and enter the correct response.
4. Optionally, click **Info** and then enter the **question information**.
5. Optionally, click the *Narrative* drop-down menu to **link an existing narrative** to the question. To enter or edit a narrative, click **Narrative**.
6. Click **Record** to save the question. Click **Close** if you do not want to save any changes you made.

Things to keep in mind:

- Click View and select the Ruler option to display a ruler. You can also change the space shown for the Question and Answer entry areas. Position the mouse pointer on the border between the two entry areas. When the mouse pointer changes to a resize cursor, drag the border to change the size as desired.
- You should limit the size of a question to one page or less. Answers should also be limited to a page or less.

Test Builder Basics

If you want ExamView Test Generator to choose questions randomly from one or more question banks, choose the QuickTest Wizard command to create a new test. Then, follow the step-by-step instructions to (1) enter a test title, (2) choose the question bank(s) from which to select questions, and (3) identify how many questions you want on the test. The QuickTest Wizard automatically creates a new test and displays it on the screen. You can print the test as is, remove questions, add new questions, or edit any question.

If you want to create a new test from scratch, select the option to create a new test from scratch. Enter a test title. You may then add questions to the test by using one or more of the following question selection options: Randomly, From a List, While Viewing, By Standard, By Criteria, or All Questions.

After you create a test, you can customize the appearance of the test by changing the number of columns, allowing for mixed question types, changing the order of the questions, editing test instructions, specifying the font and style for selected test elements, and choosing whether to leave space for students to write their answers directly on the test. The changes you make will not change the original question bank; your changes are only applied to the copy of the questions on the test you just created.

When you have finished creating your test, you can print it and/or save it. To print a test, you may select how many copies of the test you want, whether you want all the copies to be the same, whether you want to scramble the questions and the multiple choice options, and whether you want to calculate new values for dynamic questions. If you scramble the questions, a custom answer sheet is printed for each variation of the test.

This section covers the following topics:

Test Builder Toolbar

The Test Builder toolbar provides access to the most commonly used tools. Because all the toolbar tool functions can also be accessed through menus, you may decide to turn off the toolbar to allow the maximum screen space for viewing the test.

> **NOTE**
> Not all toolbar tools are available for Mac. PC users can further customize the toolbar to select which tools are displayed and the size of the tool icons.

Icon	Description	PC Shortcut	Mac Shortcut
	QuickTest Wizard - The QuickTest Wizard allows you to create a test quickly with randomly selected questions from one or more question banks.	Ctrl + T	Cmd + T
	New Test - This option is available for users who prefer to create tests from scratch.	-	-
	Open Test - Use this option to open a test you have previously created and saved.	Ctrl + O	Cmd + O
	Save - Click this icon to save the test.	Ctrl + S	Cmd + S
	Print - Click this icon to print the test.	Ctrl + P	Cmd + P
	ExamView Cloud - Click this icon to be directed to Turning Account (a free, unique identifier that is used to tie together all software accounts and response devices). Sign in with your Turning Account to access ExamView Cloud. Note: You will need a special license to access ExamView Cloud.	-	-
	Find - Click this icon to perform a text search within the current test.	Ctrl + F	Cmd + F
	Replace - Click this icon to replace text within the current test.	Ctrl + R	Cmd + R
	Spell Check - This option checks the spelling for the current test.	-	-
	Calculate Values - This option adjusts the numeric values of applicable questions and answers.	Ctrl + K (selected item)	Cmd + K (selected item)
	Toggle Bimodal - Click this icon to convert a multiple choice question to a short answer or vice versa.	Ctrl + B (selected question)	Cmd + B (selected question)
	Reorder Questions - Click this icon to open the Reorder Questions window where you can drag and drop questions to change their order.	-	-

Icon	Description	PC Shortcut	Mac Shortcut
	Scramble - Click this icon to open the Scramble window where you can scramble questions, sections or multiple choice/multiple response answer choices. Not available on Mac, use the Question menu to access this function.	-	-
	Style Gallery - Click this icon to open the Style Gallery where you can choose from several layout styles. Not available on Mac, use the Test menu to access this function.	-	-
	Two Columns - Click this icon to switch to two-column formatting.	-	-
	Mix Question Types - When you click this icon the questions are no longer grouped by question type.	-	-
100%	**Percent Zoom** - Click the drop-down to adjust the zoom.	-	-
	Select Randomly - Use the Select Questions Randomly option if you want to quickly choose questions without regard to the content of the question.	Ctrl + 1	Cmd + 1
	Select From a List - The Select Questions From a List command is an easy way to select questions if you know which ones you want to select.	Ctrl + 2	Cmd + 2
	Select While Viewing - The Select Questions While Viewing command lets you view the questions on the screen and choose which ones you want to include on a test.	Ctrl + 3	Cmd + 3
	Select by Standard - Use the Select Questions by Standard option if you want to choose questions based on their learning objective, national standard, state standard, or local standard.	Ctrl + 4	Cmd + 4
	Select by Criteria - When you want to select questions based on certain criteria, use the Select Questions by Criteria command.	Ctrl + 5	Cmd + 5
	Select All - When you want to select all the questions in a question bank, use the Select All Questions command.	Ctrl + 6	Cmd + 6
	Help - Opens the ExamView Test Generator help file.	-	-

Creating a Test with the QuickTest Wizard

The QuickTest Wizard is the quickest and easiest way to create an ExamView test.

1. Click or select **QuickTest Wizard** from the menu bar.

   If you just opened the program, select from the *Welcome* screen.
2. Enter the **Test title** and click **Next**.
3. Double-click a folder (if necessary) to display a list of question banks.

4. Select the **question banks** from which you want to select questions and click **Next**.
   Click the **Folder** icon to identify the location of the files if no question banks appear in the list. If you assigned a password to the question bank, you will be prompted to enter the password before you can continue.
5. Identify how many questions of each type you want on the test and click **Next**.
6. If prompted, enter the number of matching groups you want the wizard to use when it selects the matching questions you requested.
7. Review the test summary and then click **Finish** to complete the process.
   When you click Finish, ExamView selects the questions based on your responses and displays them in the test document window.

Next Steps

After the program displays the test, you can edit/create questions, select additional questions, customize the appearance of the test, save your work, or print the test.

Creating a New Test and Selecting Questions

The Test Builder and the Question Bank Editor are separate parts (or modules) of the ExamView Test Generator program. Be sure that you are working in the Test Builder module.

1. Click or click **File** from the menu bar and select **New Test**.
2. Enter the **Test Title** (e.g., Chapter 1, Midterm, Section 1 Quiz, etc.).
3. Add up to 250 questions per test using any of the six question selection options.
4. Optionally, edit any of the questions you added to the test, or create a new question from scratch.
5. Optionally, customize the appearance of the test.
6. Save the test.

> **TIP**
> You can create a new test from scratch, or you can create a test using the QuickTest Wizard and then add additional questions to the test.

Opening a Test

Test files from previous versions of the ExamView Test Generator program can be automatically opened. However, once a test is saved in the new version, it cannot be opened in an older version. It is recommended that you use a different file name. All tests use the TST file extension.

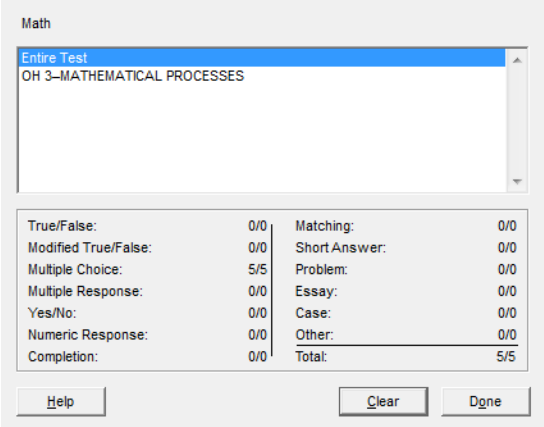
1. Click or click **File** from the menu bar and select **Open Test**.
   If you just opened the ExamView Test Generator, select **Open an existing test** from the *Welcome* screen.
2. If necessary, identify the folder that contains the test file. If the file is located on a different drive or on a network, select the corresponding drive.

3 Select the **test** and click **Open**.

> **NOTE**
> If you assigned a password to the test, you will be prompted to enter the password before you can continue.

Clearing Questions from a Test

If you want to delete one or two questions, the best way is to highlight those questions (one at a time) and click the Delete button. To delete all questions of the same type (e.g., multiple choice), highlight the question type header and click Delete.



1 Click **Select** from the menu bar and select **Clear Selections**
The *Clear Selections* window opens.

2 Select **Entire Test** or the bank title for those questions to delete.
The program updates the question information in the lower portion of the window as you make your selection. There you can see the number of questions in each question type. The first number represents how many questions in the test are taken from the selected question bank. The second number shows how many questions of that type are on the entire test.

3 Click **Clear** to delete the questions.

4 Repeat Steps 2 and 3 if there are additional questions you want to delete.

5 Click **Done** when you are finished.

> **IMPORTANT**
> When you clear (remove) questions from a test, you are not removing questions from the original question banks. However, if you created any new questions for the test or edited any questions, these questions and changes are permanently deleted.

Editing/Creating Questions on a Test

How to edit a question on a test...

1 Select the question in the test window.

2 Click **Edit** located at the bottom of the test window, or double-click the question to display an editing window.

3 Edit the question, change the answer, update the narrative, and/or modify the question information (objectives, difficulty code, reference, topic, or notes).

4 Click **Record** to accept all of the changes you made to the question.
The original question in the question bank is not updated. The changes are only applied to the copy on the test.

> **TIP**
> Use the Question Bank Editor to permanently change a question or to add a new question for use on other tests.

How to delete a question from a test...

1. Select the question to delete.
2. Click **Delete** located at the bottom of the test window.
3. Click **Yes** to confirm that you want to remove the question from the test

> **IMPORTANT**
> Removing a question you selected from a question bank does not affect the original question.

> **TIP**
> Use the Clear Selections command to quickly delete all questions or to remove questions you selected from a particular question bank. To remove an entire question type, select the desired type and click the Delete button.

How to create a new question...

1. Click **New** located at the bottom of the test window or press either **Ctrl + N** (PC) or **Cmd + N** (Mac).
2. Select the **Question Type** (e.g., true/false, multiple choice, etc.) and click **OK**
3. Enter the new question, answer, and information (optional).
4. Click **Record**.
   The new question is added to the current test.

> **IMPORTANT**
> New questions added to a test are only available for the current test. To create questions that will be available for all of your tests you must create a new question in the question bank. For more information, see ***Creating, Editing and Deleting Questions in a Question Bank*** on page 47.

Using the Spell Checker

You may use the spell check function an entire test or a single question. When viewing a question bank, the spell check function does not check the answer choices for Bimodal questions shown as Short Answer. Spell check does not check dynamic content.

1. Open Spell Check:
   a. To spell check an entire test, click ABC or click **Edit** from the menu bar and select **Spell Check** while a visual test appears on the screen.
   b. To spell check a question, click **Spell Check** while entering/editing a question.

> **IMPORTANT**
> If you are entering a question with an open-ended response (e.g., short answer), you must separately check the spelling in the question and then in the answer. Position the cursor in the section you want to spell check.

2 Before you spell check your work, you can set the options to skip the following words: all-cap words, words with numbers, and mixed-case words. Click **Options** to change these settings.

3 Click **Start** to check the spelling.

4 If the spell checker finds a word that is not in its dictionary, the word is highlighted and you are provided with several choices. Select one of the following:

- **Skip Once** - Skip the highlighted word one time without changing the word.
- **Skip Always** - Ignore the word every time it appears.
- **Add** - Add the word to the custom dictionary.
- **Replace All** - Replace all occurrences of the word throughout the entire question bank.
- **Replace** - Replace only the current instance of the highlighted word.

> **NOTE**
> You can click **Custom** to add or remove words in the custom dictionary. The custom dictionary (examview.tlx) is stored in the application folder. You can delete this file to remove the entire custom dictionary.
>
> Click **Dictionaries** to select which dictionaries to use for the spell check. ExamView Test Generator ships with an American English and a Spanish dictionary, but may include an alternate dictionary (e.g., French or German) depending on the question bank content.

5 Click **Done** when you finish using the spell checker.

Mixing Question Types on a Test

By default questions are grouped by type (e.g. multiple choice, true/false, etc.). Follow the steps below to mix question types.

> **NOTE**
> The instructions that appear with each question type will not display if you choose to allow for mixed question types. To include instructions for specific questions add the instructions to the question or the question narrative.

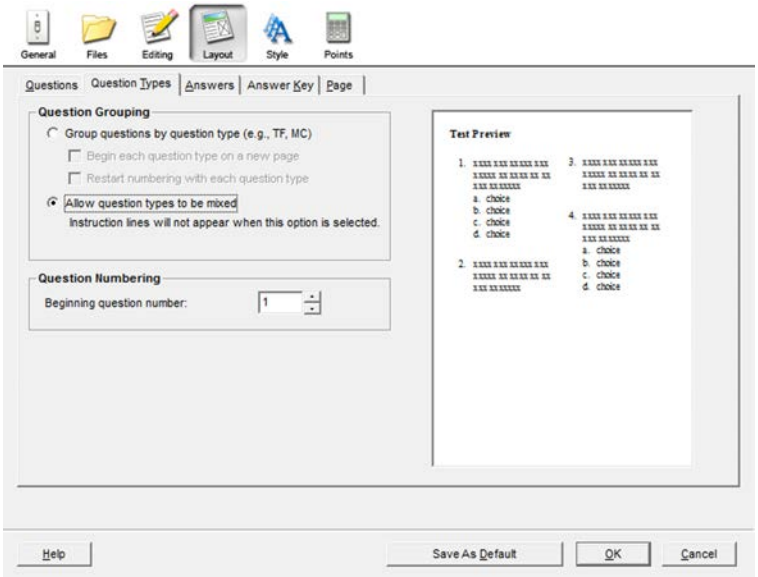
1 Click or click **Edit** from the menu bar and select **Preferences**.
The *Preferences* window opens.

2 From the *Preferences* window click the **Layout** icon and then click the **Question Types** tab.

3 Select the radio button labeled **Allow question types to be mixed**.

4 Click **OK**. (Click Save As Default if you want all future tests to allow for mixed question types.)

5 Allowing for mixed question types does not automatically mix your questions. Once



you allow for mixed question types you should reorder or sort your questions to mix them.

Reordering Questions

1. Click from the toolbar or click **Question** from the menu bar and select **Reorder**.
2. Select an item (individual question, question type group or narrative group) and hold down the left mouse button while dragging the item to the new location in the list. Alternatively, press either Ctrl+▲/Ctrl+▼(PC) or Cmd+▲/Cmd+▼ (Mac) to move the highlighted question.

   Rules for reordering questions on a test grouped by question type:
   - Only questions of the same question type can be moved.
   - To move an entire question type group (e.g., multiple choice), select the question type title and drag it to the desired location.
   - A group can only be moved to certain places in the list. The insertion bar appears as a thick line to indicate where the question group can be moved.
   - Questions attached to a narrative can be moved only within the same narrative group.
   - A question not a part of a narrative group cannot be moved into that group. Likewise, you cannot move a question linked to a narrative outside of the group.

   Rules for reordering question on a text with mixed question types:
   - Questions attached to a narrative can be moved only within the same narrative group.
   - A question not a part of a narrative group cannot be moved into that group. Likewise, you cannot move a question linked to a narrative outside of the group.
   - Matching questions can be moved only within the same matching group.

   > **NOTE**
   > If you do not see the Reorder button, right click on the toolbar and select Customize.

3. Repeat step 2 for each item to be moved.
4. Click **OK** to update the current test.

Sorting Questions in a Test/Question Bank

In addition to reordering questions in a test/question bank, you can sort the questions based on various criteria provided that *Allow for question types to be mixed* is enabled. This feature is useful for quickly adding another layer of organization to your test/question bank. For example, questions can be sorted to present the questions in order of increasing difficulty level or to group questions by state standard.

> **NOTE**
> In order to utilize this sorting feature, questions must contain descriptive meta-data information.

1 Click or click **Question** from the menu bar and select **Reorder**.
2 Click **Sort**.

> **NOTE**
> If a Sort button is NOT visible, click **Cancel**.
>
> Click **Edit** from the menu bar and select **Preferences**, click the **Layout** icon and then click the **Question Types** tab. Select **Allow for mixed question types**.
>
> Sorting is only allowed if at least some of the questions contain information that can serve as sorting criteria.

3 Select the **criteria** to use as the basis for the sorting action from the *Sort by* drop-down menu.
   - The Sort by list can sort by any of the question information fields, such as Difficulty, Reference, Learning Objective, State Standard, Topic, Keywords and Item ID No.
   - The Sort by list will only contain entries for question information fields that contain at least one entry for the questions being sorted.
   - Sorting treats the entire entry of a question information field as a single entity, even if it contains multiple entries separated by an item delimiter character.

> **EXAMPLE**
> If a question contains two keywords stored as ”r;energy | heat”, the category would appear exactly as shown rather than as separate entries for ”r;energy” and ”r;heat.” Further, if another question contains just the keyword ”r;energy”, it would not be recognized as being a subset of the previous question with multiple entries.

4 A preview of all the entries for the sort criteria is displayed in the area below the drop-down menu. Drag an entry up or down to reorder the list to the desired sort sequence.
   - Entries are always initially shown in alphabetical order, not by the order that they appear in the current question order.
   - Changing the sort criteria or closing the *Sort Questions* window resets the order of the entries to the initial alphabetical sequence.
5 Click **OK** to apply the sort order to the questions. The question order displayed in the *Reorder Questions* window will now reflect the sorting order.

Scrambling Questions on a Test

The Scramble option is different from the Reorder command in that the Reorder command lets you move questions one at a time or in a group. And, you can move them exactly where you want the questions to appear. With the Scramble option, the program randomly rearranges the questions. If you prefer, you can automatically generate different versions when you print a test.

1 Click or click **Question** from the menu bar and select **Scramble**.
2 Select one or more of the scramble options: **sections**, **questions**, and **answer choices**.
3 You may assign a new **test version** (A-Z) each time you scramble the questions.
4 Click **OK** to scramble the current test.

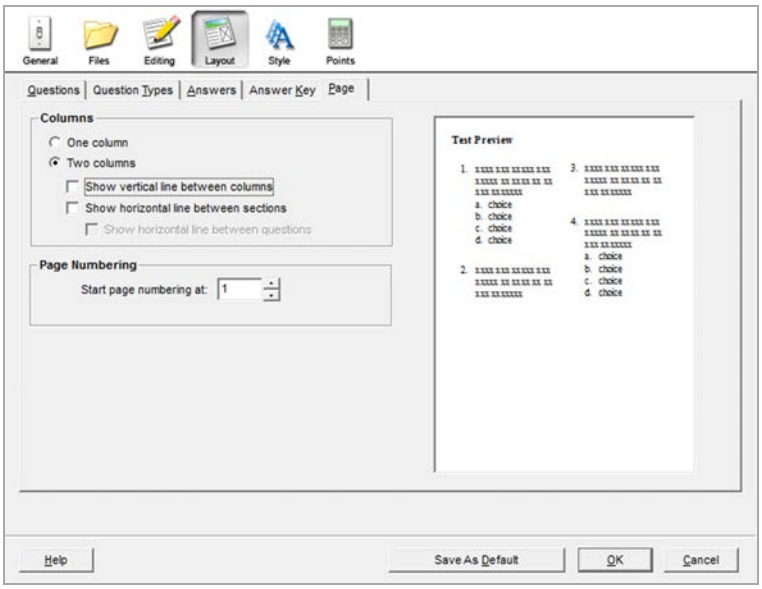
Two-column Formatting

By default, ExamView displays tests in one-column format. Follow the steps below to switch to two-column formatting.

> **NOTE**
> Not all questions can be displayed in two-column format. For example, a question may be too wide to fit within the column.

1. Click or click **Test** from the menu bar and select **Layout**.
2. Click the **Layout** icon and then click the **Page** tab.
3. Select the radio button labeled **Two Columns**.
4. Optionally, select **Show vertical lines between columns** and/or **Show horizontal lines between sections**.
5. Click **OK**.

> **TIP**
> Click **Save As Default** if you want all future tests to display in two-columns.



Printing a Test

When printing a test you must select the number of versions to print as well as several scramble options. There are also options for printing an answer strip and/or a version map (if applicable).

1. Click or click **File** and select **Print Test**.
2. Specify the **number of test versions to print** (1-26).
3. Select one or more of the scramble options: **sections**, **questions**, **multiple choice/multiple response answer choices** or **calculate new algorithm values**.
   If you opt to scramble sections or questions, you can also choose to print a version map—a correlation chart to show you how the test was scrambled.
   The *calculate new algorithm values* is only available for tests that contain dynamic questions.
4. Optionally, **print an answer strip**.
5. Optionally, **print a version map**.
6. Click **OK** to confirm your responses.
7. In the *Print Test* window, select **entire test** or **selected pages** and then click **OK** to print the test.

> **NOTE**
> You cannot print selected pages if you chose to print an answer strip or multiple versions of a test.

Printing a Bubble Form (PC Only)

Bubble forms are available for printing from either the Test Generator or Test Manager application. These bubble forms are compatible with the plain-paper scanning feature of the Test Manager. Refer to the Test Manager Help for details about this capability.

When printing the bubble form from ExamView Test Manager, you have the additional option of printing student and assignment information directly onto the form.

1. Click **File** and select **Print Bubble Form**.
2. Select a **form** from the *Form Name* list.
   A description of the selected bubble form is displayed in the area on the right.
3. Click **OK** to print the selected bubble form.

Translating a Test

With the translate function, ExamView Test Generator automatically builds a new test using an alternate language question bank. The software does not actually translate a test. It simply finds and selects the matching questions from the alternate question bank(s).

> **IMPORTANT**
> The Translate Test command appears in the menu only if the publisher-prepared banks include banks for multiple languages (e.g., English and Spanish).

1. Save the current test.
2. Click **Test** from the menu bar and select **Translate Test to (language)**.
3. If necessary, you may have to identify the location of the question bank file(s).

Translate Test command best practices:

- For best results, do not edit any questions or add new ones to the publisher-supplied question banks. If, for example, you edit a question in an English question bank, the equivalent question in the Spanish bank is not updated. This same rule applies for new questions you add to a question bank.
- Any changes you make to questions on a test or new questions you add will not be reflected in a “translated” test. If you edit a question on a test, it is necessary to make the same edits once the “translated” test appears.
- If you want to add your own questions, create a completely new question bank. When you create a test that includes your own questions, the program will not be able to “translate” those questions. ExamView Test Generator will display a message letting you know if it could not “translate” some of the questions. You can then manually add those questions to the test.
- If you accidentally change a question bank, it may be best to re-install the question bank(s). You may need to delete any question bank files you changed for the installer to correctly update the question bank files.
- Once installed, do not change the folder names for the question banks as the program may not be able to locate the alternate language files.

Saving a Test

> **NOTE**
> You can automatically open test files from previous versions of the ExamView Test Generator program. However, once you save a test using the new version, you cannot open that file with an older version. It is recommended that you use a different file name.

1. Click from the toolbar or click **File** and select **Save**.

> **NOTE**
> Click **File** and select **Save As** to save the test with a different file name and/or to save the test to a new file location.

2. Enter a **name** for the test.
3. Identify the folder where you want to save the test. If you want to save the file on a different drive or on a network, choose the location.
4. Click **Save** to save the test.

Assigning a Password to a Test

> **TIP**
> Be sure to write your password on a piece of paper and store it in a safe place. You will not be able to open the test without the password.

1. Click **Edit** from the menu bar and select **Test Password**.
2. Enter a **password** and click **OK**.
3. Re-enter the **password** and click **OK** to confirm the password.

> **NOTE**
> To remove an existing password, click **Edit** and select **Test Password**. Delete the existing password and click **OK**.

Exporting a Test

Tests may be exported as a Rich Text Format (RTF), HTML, ExamView Question Bank (BNK), ANGEL (ZIP), Blackboard (ZIP) or WebCT (ZIP) file.

1. Click **File** from the menu bar, mouse over **Export** and select the appropriate **export type**.
2. Enter a new **file name**.
3. Optionally, select a folder to identify the location where you want to save the file. If you want to save the file on a different drive or on a network, choose that location.
4. Click **Save** to export the test.
   Some export formats require additional settings to be specified and an options dialog will appear. Complete the required fields to continue the export process.

- The Rich Text Format (RTF) provides an easy way to export to a program such as a word processor. Depending on the application you use to import an RTF file, some of the formatting options may not be supported. For example, WordPad does not accommodate tables, borders, shading, etc.
- You can export a test to a question bank format. By exporting a test to a question bank format, you can then include those questions on another test.
- To merge several question banks into one question bank, create a test using all of the questions from the desired banks. Then, export the test as a question bank.
- The export option supports ANGEL, WebCT, and Blackboard formats. When you export a test using any of these choices, the program formats the questions and images and then compresses them into one ZIP file that you can import into your course management system. For direct publishing of the test to the LMS, use the *Publish To* menu option (not available for all learning platforms) rather than *Export*.

Importing an XML Document into the ExamView Test Generator

1. Click **File**, mouse over **Import** and select **ExamView XML**.
2. Select an **XML test file** to import.
3. Click **Open** to import the test.

> **NOTE**
> If there are errors in the XML file, a message appears to identify the location and nature of the error. You must edit the file, correct the error, and save the file. Then, repeat the steps to import the file. The XML specification requires that the file include specific tags and content in a particular format.

Importing a CPS Lesson (PC Only)

1. Click **File**, mouse over **Import** and select **CPS Lesson**.
2. Locate the **CPS database** (both CPS and CXM file types are supported) that includes the lesson you want to import. Select the file and click **Open**.

> **NOTE**
> By default, the CPS file selection window opens the My Documents directory.

3. Select the **lesson** that you want to import from the directory tree and click **OK**.

> **NOTE**
> Folders and lessons that do not contain questions cannot be imported and are indicated with an icon that includes a minus sign in a red circle.

Generating a Test Summary Report

The Test Summary Report displays information about the questions included on the test and may provide links for relevant remediation content. Look for the globe with the orange arrow in the table header to indicate that remedial content links will be active if the question information is available.

In the first section of the report, a table shows which question banks you selected questions from and their point values. The second section of the report shows the number of questions for each question type. The third section of the report lists the Learning Objectives for the questions (if available) along with the associated keywords. Keywords may contain hyperlinks to remediation content. The last section of the report shows the State Standards (if available) used in the test. State Standards will hyperlink to remediation content if they contain an alignment code.

> **NOTE**
> Remediation hyperlinks are only available for keywords and state standards. The state standard information must include an alignment code in order to link to remedial instruction. The ExamView® Learning Series questions include state standard alignment codes. Learn more at http://www.einstruction.com/products/examview.
>
> Remedial instruction is provided through netTrekker d.i. You must have an active netTrekker d.i. account to access the resources. To learn more about netTrekker visit www.netTrekker.com.

1. Click **Test** from the menu bar and select **Summary**.
2. Click **Print** to print the test summary.
3. Click **Cancel** when you are finished with the summary.

Question Selection Methods

This section covers the following topics:

Selecting Questions Randomly
Selecting Questions from a List
Selecting Questions While Viewing
Selecting Questions by Standard
Selecting Questions by Criteria
Selecting All Questions

Selecting Questions Randomly

Use the Select Questions Randomly option if you want to quickly choose questions without regard to the content of the question. For example, you could choose 20 multiple choice questions randomly and then use another method to select additional questions.

1. Click or click **Select** from the menu bar and select **Randomly**.
2. Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.
3. Click **Next**.
   A window with five columns appears—Already Selected shows the number of questions of each type from the current bank or banks that are already on the test, Number Remaining lets you know how many more you can select, Additional Selections includes space for you to select new questions, and Total shows the total for each question type from the current bank.
4. In the *Additional Selections* column, enter the **number of new questions** you want to select for each question type.
5. Click **Finish** to select the new questions.

Selecting Questions from a List

The Select Questions From a List command is an easy way to select questions if you know which ones you want to select. Using a question bank printout, you can scan through the questions ahead of time even if you don't have access to a computer. Write down the question types and the question numbers. Later, while working with the software, you can use the From a List command to select those questions you already identified.

1. Click or click **Select** from the menu bar and select **From a List**.
2. Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.
3. Click **Next**.
   A window with two columns appears. The first column shows the question type and question number. The second column changes depending on the current sort by setting. For example, you can sort by: question order, difficulty, reference, learning objective, national standard, state standard, local standard, topic, keywords or item ID number.

   > **NOTE**
   > The availability of a difficulty code, objectives, reference, or topic depends on each particular question bank.

4. Select the **box next to each question** you want use.
5. Click **Finish** to select the questions you identified.

   > **NOTE**
   > Using the question information option, you can mark questions not to be used on a test instead of deleting a particular question. Question numbers will not appear in the list for those questions that you have marked not to be included on a test.
   >
   > A black dot appears next to any bimodal multiple choice or short answer questions in the list.

Selecting Questions While Viewing

The Select Questions While Viewing command lets you view the questions on the screen and choose which ones you want to include on a test. It's an easy way to preview questions before you add them to a test. You can see the question and answer together, along with the question information (if available). You may also use the Options button to customize which question information fields are shown in the preview.

1. Click or click **Select** from the menu bar and select **While Viewing**.
2. Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.
3. Click **Next**.
   When you use this option, the program displays a window with all of the questions in the current bank. A selection check box appears next to each question. Check boxes also appear next to the question bank title, each question type title, and each narrative.

4 Select the **box or item next to each question** you want use.

> **TIP**
> Click **Options** to make adjustments to how much question information is shown in the preview window. Changing the viewing options allows you to just show the question information that you need to make your selections.

- Click the check box next to the bank title to select the entire bank. Then you can selectively deselect questions you don't want to include.
- To select all questions of a particular type (e.g., all multiple choice), click the check box next to that type.
- If you want all questions that are linked to a narrative, select the narrative.

5 If you selected multiple question banks, click the Bank drop-down list to choose a different bank from which to select questions.

6 Click **Finish** to select the questions you identified.

> **NOTE**
> Questions that you marked not to be included on a test will appear with a disabled check box so that you cannot select them. To make the question available, edit the question using the Question Bank Editor and change the option in the question information.

Selecting Questions by Standard

Use the Select Questions by Standard option if you want to choose questions based on their learning objective, national standard, state standard, or local standard. This powerful tool allows you to quickly create a test to help you determine which objectives your students have met and which objectives they still need to work on.

1 Click or click **Select** from the menu bar and select **By Standard**.

2 Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.

3 Click **Next**.
A window with five columns appears. The first column shows the learning objective or standard. Click the *Standard type* drop-down menu to select whether you want to display the learning objective, national standard, state standard, or local standard.

4 The *Already Selected* column shows the number of questions for each learning objective or standard that are already on the test. *Number Remaining* lets you know how many more you can select from the current question bank or banks. *Additional Selections* includes space for you to select new questions. *Total* shows the total for each learning objective or standard.

5 In the Additional Selections column, enter the **number of new questions** you want to select for each objective/standard.

6 Click **Select**.
The program selects the number of questions you requested that match the objectives/standards you selected and then it rebuilds the test in the background.

7 Repeat steps 3 - 5 to select additional questions.

8 Click **Close** when you finish selecting questions by standard.

> **NOTE**
> Because some questions may contain more than one objective/standard, the total in the Number Remaining column may not match the actual total of questions available.
>
> If standard descriptions are available for the selected bank(s), a check box to Show descriptions will appear in the dialog. Turning this option on appends the description to the standard code.

Selecting Questions by Criteria

When you want to choose questions based on certain criteria, use the Select Questions by Criteria command. You could, for example, select all multiple choice questions that have “average” as the difficulty code. Just enter the search criteria and ExamView Test Generator tells you how many questions match that request. Then select the number of questions you want to include on the test.

1 Click or click **Select** from the menu bar and select **By Criteria**.
2 Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.
3 Click **Next**.
4 Select a search option. You may choose to have your criteria match exactly or to search using wild cards. If you choose to use wild cards, see the notes below for search commands.

   You may use the following commands to refine your search.
   Searches are not case-sensitive, so whether or not you use capital letters, your results will be the same.
   - To find items where two or more words are all present, just enter the words with a space between them. For example, a search for nouns proper capital would return items with all three words in any order.
   - To find items containing certain words in a particular order, place quotation marks around the group of words. For example, a search for "Romeo and Juliet" would return items containing Romeo and Juliet, but not those just containing Romeo, and, or Juliet.
   - To find items that don't contain a certain word, place a minus sign immediately before the word to be excluded (no space). For example, a search for subjects predicates -compound would return items containing the words subjects and predicates but not containing the word compound.
   - To find items where one word or another is present, enter words in parentheses separated by commas. For example, a search for (adjectives, adverbs) would return items that contain either the word adjectives or the word adverbs.
   - To find items that contain words starting with a particular sequence of letters, enter the letter sequence followed by an asterisk. For example, a search for pro* would return words starting with pro, such as pronoun, proper, properties, etc. The asterisk must be at the end of the sequence of letters.
   - You may combine the above find commands. For example, a search for noun (common, compound, -proper) would return items that contain the word noun and either common, compound, or not the word proper. A search for -pro* would return all items that did not contain a word beginning with pro.
5 Set the **Question type** to filter the search or leave it set to **Any**.
6 Click the List buttons to select from a list; or key the Difficulty, Reference, Objective/Standard, Topic, Keywords, and/or Miscellaneous search criteria. If you select from a list, the *Search options* drop-down menu will automatically be

set to *Match criteria exactly*.

After you enter the search criteria, the program shows you how many questions match the criteria from those available (not already selected) in the current bank.

7 From the pool of questions matching the criteria, you can now select questions individually from a preview window (**Select While Viewing**) or specify the number of questions and have the program randomly choose the questions (**Select Randomly**). Click the button with the desired selection mode.

8 From the next dialog, select **individual questions** (Select While Viewing) or **specify the number of questions** (Select Randomly) to add to the test and click **OK**.

The program rebuilds the test in the background to include the selected questions.

9 Repeat Steps 3-7 to select additional questions.

10 Click **Close** when you finish selecting questions by criteria.

Selecting All Questions

When you want to select all the questions in a question bank, use the Select All Questions command.

1 Click or click **Select** from the menu bar and select **All Questions**.

2 Select the **question bank or banks** you want to use and click **Select**. You may also click **Select All** to use all question banks within the selected folder. If necessary, click the folder button to navigate to the folder containing your question banks.

3 Click **Next**.

4 When prompted, click **Yes** to indicate if you want to add all of the remaining questions to the current test.

Customizing the Appearance of a Test

This section covers the following topics:

Changing the Layout and Style for a Test
Optimizing Tests for Two-Column Format
Changing Headers and Footers
Changing Question Type Instructions
Setting the Instruction Language
Formatting a Test with the Style Gallery

ExamView Test Generator includes numerous features that allow you to customize the appearance of a test to your exact specifications. A few of the more popular options are listed here, but you can refer to the help topic *Customizing the Appearance of a Test* for a complete list.

Answer Space

Depending on how your students will complete the test, you can turn on or off space for answers. For example, if you want your students to write the answers on the test next to each question, you can provide space to do so. If your students will be using a bubble sheet or a separate piece of paper, you can show only the questions. Click **Test** from the menu bar and select **Layout**. Click the **Answers** tab and set the corresponding options in the *Answer Space* area.

> **NOTE**
> Some answer space options are disabled when tests are set to display in two-column format.

Mix Question Types

You can group questions on a test by question type (e.g., multiple choice, true/ false, etc.) or mix the question types. When questions are grouped by question type, an instruction line describing how to answer questions of this type is displayed.

Often state tests do not group questions by question type. If you want to create a test that more closely resembles a state test, you can mix the question types. Click **Test** from the menu bar and select **Layout**. Click the **Question Types** tab and select **Allow question types to be mixed**. Reorder the questions to mix the question types (see the Reordering Questions section that appears below).

Two-Column Formatting;

You can display tests in one- or two-column format. Click **Test** from the menu bar and select **Layout**. Click the **Page** tab and select **Two Columns**. Choose whether you would like vertical and horizontal lines included on your test.

Reordering Questions

Click **Question** from the menu bar and select **Reorder**; the questions to your liking. If your test is set to group questions by question type, your questions must remain grouped by question type when reordering. You cannot move a single true/false question to a position after the multiple choice questions. Instead, you must move the entire group of true/false questions.

> **NOTE**
> You can manually reorder or scramble questions. Also, when you print a test, you can scramble the questions.

If your test is set to allow for mixed question types, you can click **Sort in the Reorder Questions** dialog box to sort questions by question criteria.

If you want to scramble the questions, click **Question** from the menu bar and select **Scramble**. From there, you can choose to scramble sections, questions, and the answer choices in multiple choice and multiple response questions.

Replace Font

If you want to change the font of your entire test, click **Edit** from the menu bar and select **Replace Font**. Select the fonts and sizes you want to use, and click **Replace All**. All questions in your test will instantly update with the newly selected font choices.

> **TIP**
> If you use the Replace Font option to replace a font, it is best to replace one font (e.g., Times New Roman) with another (e.g., Arial). Do not choose to replace all fonts with another font. This could cause unintended results such as replacing symbols or other special characters (e.g., Symbol).

Adjust Multiple Choice

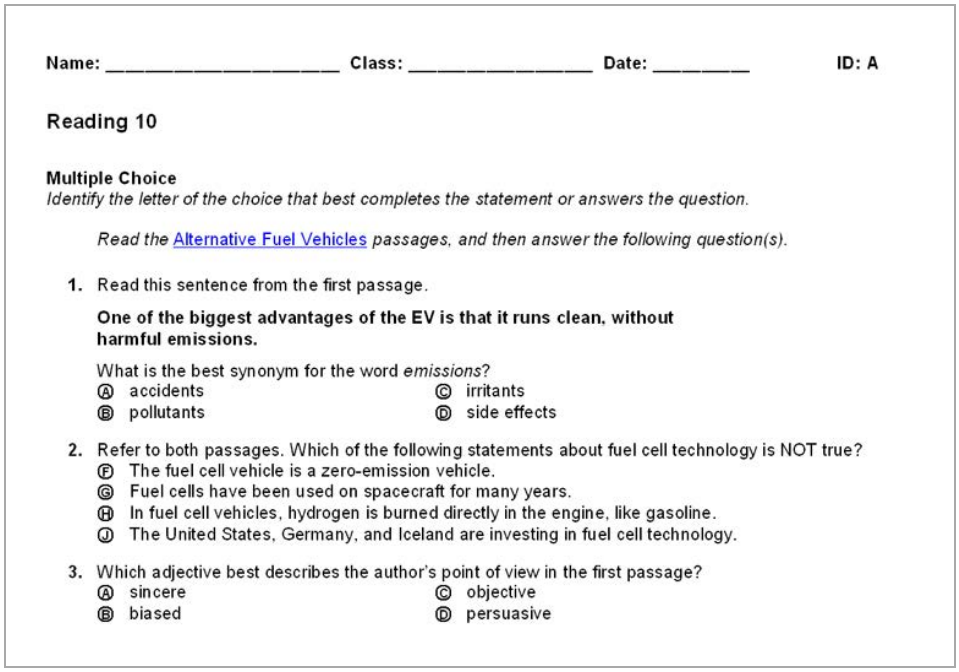
You can instantly reduce the number of choices in all of your multiple choice questions. Click **Question** from the menu bar and select **Adjust Choices/Columns**.

Layout and Style

Several state and national test styles are built into the ExamView Test Generator. Instantly format your test by selecting a style from the Style Gallery.

EXAMPLE
If you want to format your test to look like the PSAT, click **Test** from the menu bar and select **Style Gallery**. Select the **PSAT** option and click **OK**.

If you do not see a particular style in the Style Gallery, you can customize the test with the Layout and Style commands. Click **Test** from the menu bar and select **Layout**, and set the layout options. Then click the **Style** toolbar button and select your fonts and styles. The figure below shows an example of a test with a customized bubble sheet style.



Name: _____ **Class:** _____ **Date:** _____ **ID: A**

Reading 10

Multiple Choice
Identify the letter of the choice that best completes the statement or answers the question.

Read the Alternative Fuel Vehicles *passages, and then answer the following question(s).*

1. Read this sentence from the first passage.

   One of the biggest advantages of the EV is that it runs clean, without harmful emissions.

   What is the best synonym for the word *emissions*?
   Ⓐ accidents Ⓒ irritants
   Ⓑ pollutants Ⓓ side effects

2. Refer to both passages. Which of the following statements about fuel cell technology is NOT true?
   Ⓕ The fuel cell vehicle is a zero-emission vehicle.
   Ⓖ Fuel cells have been used on spacecraft for many years.
   Ⓗ In fuel cell vehicles, hydrogen is burned directly in the engine, like gasoline.
   Ⓙ The United States, Germany, and Iceland are investing in fuel cell technology.

3. Which adjective best describes the author's point of view in the first passage?
   Ⓐ sincere Ⓒ objective
   Ⓑ biased Ⓓ persuasive

Changing the Layout and Style for a Test

ExamView Test Generator allows you to customize nearly every aspect of a test's appearance. Specifying the font, amount of space between questions and choices, number of columns on the page, and the letter sequence for answer choices are just a few of the controls that you can configure. If you want your test to resemble a standard national or state format, browse through the list of pre-made templates from the *Style Gallery*.

1. Click **Test** from the menu bar and select **Layout**.
   The *Preferences* window opens.
2. Set the Layout options.
3. Click the **Style** icon to change any of the test fonts, answer style, or number style.
4. Click **OK** to apply the settings to the current test.

NOTE
Some of the layout options (e.g., two-column format to conserve paper) do not apply to online tests.

Optimizing Tests for Two-Column Format

When two-column formatting is selected, ExamView displays every question possible in two-column format. The program follows a series of rules in deciding if a question can or cannot be displayed in two-column format.

- Question contains an image or table that is too wide to fit within a column.
  Images and tables included in a question must be roughly three inches or less in width in order for the question to display in two columns. (The exact width will depend on your page orientation, margin settings, etc.)
  Solution - If appropriate, resize the image or table to three inches or less in width. If the image or table cannot be resized, the question will have to display in one column.
- Question is between two questions that cannot be displayed in two-column format.
  If a question is positioned between two questions that cannot be displayed in two-column format (e.g. wide questions), then it will also display in one column.
  Solution - Click Reorder and reposition the question.
- Question contains dynamic content.
  The variability of some dynamic content requires that it display in one column.
  Solution - Consider replacing the question with one that is not dynamic.
- Question is set to always display in one-column format.
  ExamView provides the option to always display individual questions in one-column format. If a question will not display in two-column format check to see that it is not set to always display in one column.

1. Double-click the question that will not display in two-column format.
2. Click **Info**.
3. Make sure that a checkmark is not included next to *Always display this question in one column format in two-column tests*.
4. Click **OK**.

Changing Headers and Footers

Test headers and footers may be formatted to your preference.

1. Click **Test** from the menu bar, mouse over **Headers** or **Footers** and select **First Page** or **Subsequent Pages**.
2. Enter the new header or footer.
   You can use the word processing features (styles, fonts, tabs) in the headers/footers as needed.
3. To insert a page number, page count, version ID, or the current date, select the command from the Insert menu. Or, click the corresponding button in the entry window.
   When you print multiple versions of the same test, ExamView Test Generator automatically increments the version ID for each test. You can use this code to match a test to the corresponding answer key.
4. Click **Record** to apply the changes.

Changing Question Type Instructions

> **NOTE**
> Instructions do not appear when tests are set to allow for mixed question types.

1. Click **Test** from the menu bar mouse over **Instructions** and select the question type (e.g., true/false, multiple choice, etc.) that you want to update.
2. Enter the new instructions.
   You can use all of the word processing features (styles, fonts, tabs, etc.) except for tables.
3. Click **Record** to apply the changes you made.

Setting the Instruction Language

The instruction language option is used to set the instructions for the current test or the default instructions for new tests.

1. Click **Test** from the menu bar, mouse over **Instructions** and select **Set Language**.
2. Select the **language** from the *Instruction language* drop-down menu.
3. Click **OK**.

Formatting a Test with the Style Gallery

The list of available styles is based on your State/Region setting in the Preferences (General). Visit the downloads section of the ExamView website for more information on styles and to download additional styles for the Style Gallery.

1. Click from the toolbar or click **Test** from the menu bar and select **Style Gallery**.
2. Select the **Layout Style**.
   A preview of the test style appears in the test preview window on the right.
3. Click **OK** to apply the style to your test.
   After selecting a style, you can override individual layout and style preferences.

Question Bank Editor

The Question Bank Editor allows you to edit questions in an existing question bank or to create new question banks. Always use the Question Bank Editor if you want to permanently change a question in an existing question bank.

You may edit questions in a question bank or add new questions by using the built-in word processor. The word processor includes many features commonly found in commercially available word processing applications. These features include the following: fonts, styles, tables, paragraph formatting, ruler controls, tabs, indents, and justification.

A question bank may include up to 250 questions in a variety of formats including multiple choice, multiple response, true/false, modified true/false, bimodal, completion, yes/no, matching, problem, essay, short answer, case, and numeric response. You can assign a difficulty code, reference, topic, and two objectives to each question.

> **NOTE**
> For information on how to open the Question Bank Editor, see ***Switching Between the Test Builder and the Question Bank Editor*** on page 13.

This chapter covers the following topics:

Question Bank Editor Toolbar

The Question Bank Editor toolbar provides access to the most commonly used tools. Because all the toolbar tool functions can also be accessed using menus, you may select to hide the toolbar to provide the maximum screen space for viewing the test. PC users can further customize their toolbar to select which tools are displayed and the size of the tool icons.

> **NOTE**
> For information on how to open the Question Bank Editor, see ***Switching Between the Test Builder and the Question Bank Editor*** on page 13.

Icon	Description	PC Shortcut	Mac Shortcut
	New Question Bank - This option allows you to create question banks from scratch.	---	---
	Open Question Bank - Use this option to open a question bank you have previously created and saved.	Ctrl + O	Cmd + O
	Save - Click this icon to save the question bank.	Ctrl + S	Cmd + S
	Print - Click this icon to print the question bank.	Ctrl + P	Cmd + P
	ExamView Cloud - Click this icon to be directed to Turning Account (a free, unique identifier that is used to tie together all software accounts and response devices). Sign in with your Turning Account to access ExamView Cloud. Note: You will need a special license to access ExamView Cloud.	-	-
	Find - Click this icon to perform a text search within the current question bank.	Ctrl + F	Cmd + F
	Replace - Click this icon to replace text within the current question bank.	Ctrl + R	Cmd + R
	Spell Check - This option checks the spelling for the current question bank.	---	---
	Calculate Values - This option adjusts the numeric values of applicable questions and answers.	Ctrl + K (selected item)	Cmd + K (selected item)
	Toggle Bimodal - Click this icon to convert a multiple choice question to a short answer or vice versa.	Ctrl + B (selected question)	Cmd + B (selected question)
	Reorder Questions - Click this icon to open the *Reorder Questions* window where you can drag and drop questions to change their order.	---	---

Icon	Description	PC Shortcut	Mac Shortcut
	Scramble - Click this icon to open the *Scramble* window where you can choose to scramble questions, sections or multiple choice/multiple response answer choices. Not available on Mac, use the *Question* menu to access this function.	---	---
	Mix Question Types - When you click this icon the questions are no longer grouped by question type.	---	---
100%	**Percent Zoom** - Click the drop-down to adjust the zoom.	---	---
	Select Randomly - Use this option if you want to quickly select questions without regard to the content of the question.	Ctrl + 1	Cmd + 1
	Help - Opens the ExamView Test Generator help file.	---	---

Creating a New Question Bank

1. Click from the toolbar or click **File** from the menu bar and select **New Question Bank**.

   If you just opened the program or switched to the *Question Bank Editor*, you can select from the *Welcome* screen.
2. Enter the **question bank title and subtitle** and click **OK**.
3. Enter questions into the bank.
   You can add up to 250 questions per question bank using some or all of the available question types (e.g., true/false, multiple choice, short answer, etc.).
4. Optionally, change the layout of the question bank.
5. **Save** the question bank.
6. **Print** the question bank.

> **TIP**
> Use the *Preferences* (Editing) options to set the default multiple choice format (number of choice and columns) and the default matching format (choices, questions and columns).

Opening a Question Bank

You can automatically open question bank files from previous versions of the ExamView Test Generator program. However, once you save a question bank using the new version, you cannot open that file with an older version. It is recommended that you use a different file name.

1. Click from the toolbar or click **File** from the menu bar and select **Open Question Bank**.
   If you just opened the program or switched to the *Question Bank Editor*, you can select **Open an existing question bank** from the *Welcome* screen.
2. Navigate to the saved question bank.

3 Select the **question bank** and click **Open**.

4 If you assigned a password to the question bank, you will be prompted to enter the password before you can continue.

Checking for Content Updates

Publisher-provided question banks and tests are periodically updated to keep state standards and question content current. You can check for content updates as often as you like.

> **WARNING**
> Downloaded content will overwrite your existing question banks, state standards within your question banks, and publisher-created tests (depending on the update type). To avoid losing changes you may have made to your question banks or the publisher test files, it is recommended that you make a backup copy of your existing question banks and publisher tests and save them in a different folder.

An active internet connection is required to download content updates.

1 Click **Help** from the menu bar and select **Check for Content Updates**.

2 Click the folder buttons to locate the folder that includes the publisher question banks and tests that you want to update

> **NOTE**
> ExamView checks for content updates by comparing the question banks and tests on your hard drive or network with the updates available online. Make sure that you locate the folder that includes the question banks that you wish to update before checking for updates. You can change the default folder location in the Preferences.

3 Click **OK**.

4 Select the **product or products** that you wish to update from the list and click **Download Now**.
A content update indicates that question content has been changed and new question banks/tests will be downloaded. A state standard update indicates that only the state standards have changed. The new state standards will be downloaded and merged into your existing question banks/tests. This update will not affect any existing tests unless it is a test supplied by the publisher.

5 Click **Close** when the update is complete.

Creating, Editing and Deleting Questions in a Question Bank

How to create a new question in a question bank...

1 While working in the Question Bank Editor, click **New** located at the bottom of the question bank window or use the keyboard shortcut, press Ctrl+N (PC) or Cmd+N (Mac).

2 Select the **question type**.

3 Enter the new **question**, **answer**, and **information** (optional). See the Entering/Editing Questions help topic for more detailed instructions.

4 Click **Record**.

How to edit a question in a question bank...

1. Select the question on the test that you want to edit.
2. Click **Edit** located at the bottom of the question bank window, or double-click the question to display an editing window.
3. Edit the question, change the answer, update the narrative, and/or modify the question information (objectives, difficulty code, reference, topic, or notes).
4. Click **Record** to save your changes.

How to delete a question from a question bank...

1. Select the question to delete.
   To remove an entire question type, select the desired question type.
2. Click **Delete** located at the bottom of the question bank window.
3. Click **Yes** to confirm that you want to remove the question.

> **WARNING**
> Deleting a question permanently removes the question. You cannot undo this action.

Customizing the Layout and Style of a Question Bank

1. Click **Edit** from the menu bar and select **Preferences**.
2. Click the **Layout** icon to view the current settings and select from the following tabs:

Questions

- **Answer Choices** - Indicate whether you want to format multiple choice, multiple response, true/false, and yes/no questions using the predefined column layout or without columns to conserve paper.
- **Bimodal Questions** - Select whether you want bimodal questions to *Display as multiple choice* or *Display as short answer* questions. You can override this preference for individual questions using the Toggle Bimodal command.
- **Points** - Use this setting to set how you want point values to display on a test/question bank. You can choose to *Display points inline with question*, *Display points on a line before the question* or *Do not display points*.

Question Types

- **Question Grouping** - Select if questions should be grouped by question type (e.g. multiple choice questions grouped together, true/false questions grouped together) or if the question types should be mixed.

  > **NOTE**
  > The question type instructions are not shown when *Allow question types to be mixed is selected*.

  When Group questions by question type is selected, you can choose to *Begin each question type on a new page*. When this option is selected the test is formatted so that a section (question type) will start on a new page if the entire section does not fit on the current page. You can also choose to *Restart numbering with each question type*.

- **Question Numbering** - You may also choose to change the question number of the first question.

Question Information

Select which items (answer, difficulty code, etc.) you want to appear with each question.

3 Click the **Style** icon and select from the available tabs.

General

- **Number and Answer Styles** - Select the desired question number style. Choose the style for multiple choice, multiple response, and matching answer options.
- **Answer Choices** - Check this box if you want True/False and Yes/No questions to appear with multiple choice answer choices.
- **Choice Sequence** - You may also select a choice sequence for multiple choice and multiple response answer choices. This option helps prevent students from accidentally skipping a multiple choice question and then marking all of their answers with the wrong question number on the answer sheet.

  If any of your multiple choice or multiple response questions contain more than 5 answer choices, the choice sequence setting will be disabled.

Fonts

Question Bank Fonts - Click *Set* to change the font, font style, size, and color of the text used throughout your tests or question banks.

4 Click **OK**.

Using the Spell Checker

When viewing a question bank, the spell checker does not check the answer choices for Bimodal questions shown as Short Answer. Spell check does not check dynamic content.

1 Open Spell Check:
   a To spell check an entire test click or click **Edit** from the menu bar and select **Spell Check** while a visual test appears on the screen.
   Before you spell check your work, you can set the options to skip the following words: all-cap words, words with numbers, and mixed-case words. Click **Options** to change these settings.
   b To spell check a question click **Spell Check** while entering/editing a question.
2 Click **Start** to check the spelling.
3 If the spell checker finds a word that is not in its dictionary, the program highlights the word and gives you several choices. Select one of the following:
   - **Skip Once** - Skip the highlighted word one time without changing the word.
   - **Skip Always** - Ignore the word every time it appears.
   - **Add** - Add the word to the custom dictionary.
   - **Replace All** - Replace all occurrences of the word throughout the entire question bank.
   - **Replace** - Replace only the current instance of the highlighted word.

NOTE
You can click **Custom** to add or remove words in the custom dictionary. The custom dictionary (examview.tlx) is stored in the application folder. You can delete this file to remove the entire custom dictionary.

Click **Dictionaries** to select which dictionaries to use for the spell check. ExamView Test Generator ships with an American English and a Spanish dictionary, but may include an alternate dictionary (e.g., French or German) depending on the question bank content.

4 Click **Done** when you finish using the spell checker.

Reordering Questions

How to reorder questions in a question bank grouped by question type...

1 Click from the toolbar or click **Question** from the menu bar and select **Reorder**.
2 Click on an item (individual question, question type group, or narrative group) and hold down the mouse button while you drag the item to the new location in the list. Or, press either Ctrl+▲/Ctrl+▼(PC) or Cmd+▲/Cmd+▼(Mac) to move the highlighted question.

   Rules:
   - You can move a question only within the same question type.
   - To move an entire question type group (e.g., multiple choice), click on the question type title and drag it to the desired location.
   - You can move a group only to certain places in the list. The insertion bar appears as a thick line to indicate where you may move the question group.
   - Questions attached to a narrative can be moved only within the same narrative group.
   - A question not a part of a narrative group cannot be moved into that group. Likewise, you cannot move a question linked to a narrative outside of the group.
   - Matching questions can be moved only within the same matching group.

3 Repeat step 2 for each item to be moved.
4 Click **OK** to update the current test.

How to reorder questions in a question bank with mixed question types...

1 Click from the toolbar or click **Question** from the menu bar and select **Reorder**.
2 Click on an item (individual question or narrative group) and hold down the mouse button while you drag the item to the new location in the list. Alternatively, press Ctrl+▲/Ctrl+▼(PC) or Cmd+▲/Cmd+▼(Mac) to move the highlighted question. Another option is to click the Sort button to sort by question criteria.

   Rules:
   - Questions attached to a narrative can be moved only within the same narrative group.
   - A question not a part of a narrative group cannot be moved into that group. Likewise, you cannot move a question linked to a narrative outside of the group.
   - Matching questions can be moved only within the same matching group.

3 Repeat step 2 for each item to be moved.

4 Click **OK** to update the current test.

> **NOTE**
> If you do not see the Reorder button right click on the toolbar and select Customize.

Mixing Question Types in a Question Bank

By default, ExamView groups test questions by their question type (e.g. multiple choice, true/false, etc.). You can choose not to group questions by type by doing the following.

1 Click .
Optionally, click **Edit** from the menu bar, select **Preferences**, click **Layout**, select the **Question Types** tab, select **Allow question types to be mixed** and click **OK**.

> **NOTE**
> The instructions that appear with each question type will not display if you choose to allow for mixed question types. To include instructions for specific questions add the instructions to the question or the question narrative.

> **IMPORTANT**
> Allowing for mixed question types does not automatically mix your questions. Once you allow for mixed question types you should reorder or sort your questions to mix them.

Printing a Question Bank

When printing a question bank you have the option to print the entire question bank or selected pages.

1 Click from the toolbar or click **File** and select **Print**.
2 In the *Print* dialog box, select **All** or enter the **Page range**.
3 Click **OK** to print the question bank.

Saving a Question Bank

You can automatically open question bank files from previous versions of the ExamView Test Generator program. However, once you save a question bank using the new version, you cannot open that file with an older version. It is recommended that you use a different file name.

1 Click .

> **NOTE**
> Click File and select Save As to save the question bank with a different file name and/or to save the question bank to a new file location.

2 Enter a **name** for the question bank (with a BNK extension) if this is the first time that you have chosen to save the question bank.

3. Identify the folder where you want to save the question bank. If you want to save the file on a different drive or on a network, choose the location.
4. Click **OK** to save the question bank.

Assigning a Password to a Question Bank

The program will prompt you to enter a password when you open a question bank or when you create a test using a password-protected question bank.

> **TIP**
> Be sure to write your password on a piece of paper and store it in a safe place. You will not be able to open the question bank without the password.

1. Click **Edit** from the menu bar and select **Question Bank Password**.
2. Enter a password and click **OK**.
3. Re-enter the password and click **OK** to confirm the password.

> **NOTE**
> To remove an existing password, click **Edit** and select **Question Bank Password**. Delete the existing password and click **OK**.

Copying an Entire Question Bank

You can copy an entire question bank using the Copy Entire Bank command. Then, you can paste the question bank into a word processor.

1. Create your question bank.
2. Click **Edit** from the menu bar, mouse over **Copy** and select **Entire Question Bank**.
   The program places a complete copy of the question bank on the Clipboard.
3. Switch to another application (e.g., Microsoft Word or WordPerfect) that supports RTF (Rich Text Format).
4. Paste the question bank into the document.

> **NOTE**
> You cannot paste the question bank back into the ExamView Test Generator.

Exporting Questions from ExamView

Questions may be exported as a Rich Text Format (RTF), HTML, ExamView Question Bank (BNK), ANGEL (ZIP), Blackboard (ZIP) or WebCT (ZIP) file.

The Rich Text Format (RTF) provides an easy way to export to a program such as a word processor. Depending on the application you use to import an RTF file, some of the formatting options may not be supported. For example, WordPad does not accommodate tables, borders, shading, etc.

The export option supports both the WebCT and Blackboard (Bb) formats. When you export a test using either of these formats, the program formats the questions and images and then compresses them into one ZIP file that you can import into your course management system. Refer to the topics under the Working with an LMS category for details.

1. Click **File** from the menu bar, mouse over **Export** and select the **desired file type**.
2. **Name** the file.
3. Optionally, select a folder to identify the location where you want to save the file. If you want to save the file on a different drive or on a network, choose that location.
4. Click **OK** to export the question bank.
5. Some export format require additional settings to be specified and an options dialog will appear. Complete the required fields to continue the export process.

Importing Questions from ExamView XML

1. Click **File** from the menu bar, mouse over **Import** and select **ExamView XML**.
2. Select an ExamView XML file and click **Open** to import the question bank.

> **NOTE**
> If there are errors in the XML file, a message appears to identify the location and nature of the error. You must edit the file, correct the error, and save the file. Then, repeat the steps to import the file. The XML specification requires that the file include specific tags and content in a particular format.

Importing a CPS Lesson (PC Only)

1. Click **File** from the menu bar, mouse over **Import** and select **CPS Lesson**.
2. Locate the CPS database (both CPS and CXM file types are supported) that includes the lesson you want to import. Select the file and click **Open**.

> **NOTE**
> By default, the CPS file selection window opens the My Documents directory.

3. Select the lesson that you want to import from the directory tree and click **OK**.

> **NOTE**
> Folders and lessons that do not contain questions cannot be imported and are indicated with an icon that includes a minus sign in a red circle.

Importing an RTF Document (PC Only)

Use the included ExamView Import Utility application to import questions from an RTF document into the Question Bank Editor. For details about this process, refer to the ExamView Import Utility help files.

Navigate to your ExamView folder on your hard drive. This is typically at the root of the hard drive or C: drive. Open the Sample Bank.pdf to see how the RTF file should be formatted.

The basic required sections are the test title, question type header, question number, question, answer options (if multiple choice), and correct answer (ANS:).

Create a simple test using just true / false questions. After successfully importing a simple test, try adding more features such as images, tables, narratives, etc.

1. Click the **Start** button on the Task bar.
2. Click **All Programs** to view a menu of installed programs.
3. Click the **eInstruction** folder and then the **ExamView** folder to locate the **ExamView Import Utility**.

Publishing Tests

ExamView Test Generator lets you easily create electronic tests that can be taken over the internet with a browser or over a local-area network (LAN) with the ExamView Test Player. To create an online test, create a test using the question selection methods you already know how to use.

ExamView tests may be delivered by the following methods:

ExamView Test Player on LAN or the Internet
Personal Websites
Publisher Websites

Online tests may include any or all of the question types, however, only the objective questions (e.g., Multiple Choice, Multiple Response, True/False, Yes/No, Completion, Modified True/False, Matching, and Numeric Response) are automatically graded. You must manually score open-ended questions (e.g., Short Answer, Essay, Case, and Other).

For internet tests, your students must use a browser such as Internet Explorer 5.0 (or a more recent version) or FireFox 1.0 that supports cascading style sheets level 1 (CSS1) and JavaScript. To post tests or study guides for delivery via the internet, you must have access to the internet.

Depending on availability, your textbook publisher may offer the capability to publish tests to their website.

ExamView Test Player on LAN or the Internet

The ExamView Test Player is a separate program that lets your students take a test at a computer. Depending on the selected options, students can check their own work, receive feedback for incorrect responses and print a detailed report. A LAN-based online test can include the following question types: Multiple Choice, Multiple Response, True/False, Completion (Fill-in-the-Blank), Yes/No, Numeric Response, Essay and Matching. You can also include multimedia clips linked to specific questions (e.g., movies, animations, or audio).

> **IMPORTANT**
> Your students must use the latest version or the ExamView Test Player to view online tests created with this version of the ExamView Test Generator.

If you have access to a local area network, it is recommended that you store the online tests on the server. You can install the ExamView Test Player on the server or each individual workstation. If you decide to install the program on individual workstations, run the ExamView Test Player setup at each computer. The setup program should be provided on a separate disk. If you received a CD-ROM, a separate setup program for the player should be located in a sub folder within the ExamView folder.

> **NOTE**
> *(PC Only)*
>
> To specify the default path where the program looks for tests, set the start-up command as follows—`evplay.exe /testpath=path`.
>
> To turn off the option for students to browse network drives, include `/nobrowse` in the start-up command.

This section covers the following topics:

Publishing a LAN-Based (Online) Test Without a Roster

Online (LAN) tests may be created with or without a roster. To record student results from a test, you will need to create a test with a roster. If you are creating a study guide and do not want to record student results, you do not need to create a roster.

1. Create a new test or open an existing test.
   An online test can include any of the question types. Many of these question types are automatically scored.
2. Click **File**, mouse over **Publish To** and select **ExamView Test Player on LAN**.
3. Select the radio button labeled **Allow access to anyone**.
4. Click **Next**.
5. By default, the test title that the student sees when using the Test Player will be the same as the test title of the file. Specify a different test title if desired.
6. Optionally, indicate whether a password is required to access the test.
7. Click **Next**.
8. Select the **question presentation order**.
   Questions may be displayed in the same order for all students or scrambled for each student.
9. Specify **how many questions are presented** and if they should be recalculated.
   By default, all questions in the test will be presented to the student.
10. Select **Calculate new algorithm values for each student** if your test contains dynamic questions and you want the values for these questions to be recalculated for each student's test.
    This option is not available if the test does not contain dynamic questions.
11. Click **Next**.
12. Select one of the following options:
    - **Allow students to check each response**- Select this option to set up the test as a study guide. Enter the number of times a student may check each response. You can also select the *For incorrect responses, display the feedback information* option to provide feedback for incorrect responses (if available).
    - **Do not allow students to check their responses**- Select this option if you want to use a test format instead of a study guide format.
13. Select the information shown to the student when a test is completed.
    - **Do not show an end-of-test report** - Students will not be able to view the results of their test or study guide.
    - **Show only score (percent)** - Students will only be shown their score for the test or study guide.
    - **Show detailed report for** - You may want to allow your students to view a detailed report for either all responses or just incorrect responses. In this report, you may display the questions, student responses, question scoring, correct answers, rationale, and reference information.

NOTE
The end-of-test report can be a powerful learning tool for students. For example, you could set up the report to display the rationale and reference information for incorrect responses. This would provide each student with a customized report of what they missed, and well as how and where to come up with the correct answer.

14 Click **Next**.

15 Review the test summary and then click **Save**.
Save the test to a location that is easily accessible to the students. For example, make sure that your students have read/write access to the folder if you store the test on a network server. If you do not have a network, you must copy the online test to each workstation. By default, the test will be saved to the Default Online (LAN) Test Path that is set in the *Preferences*.

When you save an online test, the program saves a specially formatted copy of the test (using an EOT extension) to the location you specified. If you saved the test to your hard drive, you will need to copy the EOT file to your network. If your test includes links to any multimedia files, you need to copy those files manually to the same location as the online test.

Preview your online test to make sure that everything is working. If you notice an error, make any changes to the original test and publish it again.

Students will take the test using the ExamView Test Player software. If you wish to see student results, instruct them to print a post-test report. See the help file that accompanies the ExamView Test Player for more details.

Publishing a LAN-Based (Online) Test with a Roster

Online (LAN) tests may be created with or without a roster. To record the students' results from a test, you probably will want to create a test with a roster. If you are creating a study guide for student use and do not want to record the students' results, you do not need to create a roster.

1 Create a new test or open an existing test.
An online test can include any of the question types. Many of these question types are automatically scored.

2 Click **File**, mouse over **Publish To** and select **ExamView Test Player on LAN**.

3 Select the radio button labeled **Allow access to students in a particular class**.

4 Click **Next**.

5 Review the test summary information. Click Back if necessary to make any changes.

6 Click **Launch ExamView Test Manager after publishing online test** if you want to set up a class roster and other preferences for this test right away. Or, you may choose to manually open ExamView Test Manager and set these options at a later time. Your test will not be available to students until you open Test Manager and set up your preferences.

7 Click **Save** to save the test.
Save the test to a location that is easily accessible to the students. For example, make sure that your students have read/write access to the folder if you store the test on a network server. If you do not have a network, you must copy the online test to each workstation. By default, the test will be saved to the Default Online (LAN) Test Path that is set in the *Preferences*.

When you save an online test, the program saves a specially formatted copy of the test (using an EOT extension) to the location you specified. If you saved the test to your hard drive, you will need to copy the EOT file to your network. If your test includes links to any multimedia files, you need to copy those files manually to the same location as the online test.

Preview your online test to make sure that everything is working. If you notice an error, make any changes to the original test and publish it again.

For more details on setting up class rosters, setting test preferences, and viewing student results, consult the help within the ExamView Test Manager program.

Student Feedback/Multimedia

You can set up an internet or LAN-based online test so that students receive feedback for incorrect responses. You can also link multimedia objects (movies, animations, and audio) to the questions for LAN-based tests.

Feedback

If you want your students to receive feedback when they take a test online, set up the test to allow students to check each response and turn on the option to display feedback. You can record (for example) a learning tip, hint, or reference for each question. Use the *Add Feedback* option from the *Edit* menu to create feedback for true/false, yes/no, multiple choice, and multiple response questions.

Multimedia

You can set up a multimedia link for many different kinds of multimedia objects. For example, you could link a question to a movie, animation, or audio segment. Simply record the multimedia link by entering the file name along with the other question information. For LAN-based tests, the ExamView Test Player will display a multimedia button when a student accesses the corresponding question.

If you plan to use multimedia objects, you should copy them to the same folder as the online test. However, your students can access a multimedia object on a CD-ROM or DVD disc.

Hyperlink

You can insert a hyperlink into any test to be delivered online. The hyperlink can be a link to a movie, audio segment, or another web page.

Personal Websites

You can publish tests/study guides to your own website. You must save the tests/study guides to your hard drive, upload the files to your website, and then provide access to your students. Refer to the following sections for step-by-step instructions.

When your students complete an internet test, the browser will send the student's test results and all responses directly to you via email. The email will include the following information:

- student name and ID
- raw score and percentage score for objective-based questions
- responses for each question (objective and open-ended questions)

This section covers the following topics:

Saving an Internet Test to a Hard drive

When you save an internet test to your hard drive, the program creates an HTML file and an accompanying folder with all of the necessary image files. This makes it easier for you to post the files to a web server. If, for example, you enter C:\Program Files\eInstruction\ExamView\Tests\chapter1, the software will create a file called chapter1.htm and a folder called chapter1_ files with the required image files.

1. Create a test/study guide just as you would create a test to be printed.
2. Click **File**, mouse over **Export** and select **HTML**.
3. **Name** the test.

> **NOTE**
> The Test Generator automatically replaces any spaces in file names with underscores (_).
>
> If there are problems with symbol characters displaying incorrectly in browsers other than Internet Explorer, click Advanced to change the browser setting.

4. Select one of the following options:
   - **Export as study guide** - If you select to export a study guide, you can decide whether or not to display the rationale, feedback and a reference for your students. Using the study guide mode, students can check their own work. The program scores each objective question and shows which responses were correct and which were wrong.
   - **Export as test** - If you select to export a test, you must specify an email address. When students submit a completed test, the browser sends the results to you via email. If you prefer, you can allow students to see their results.
5. Click **OK**.

6 Enter a **file name** and click **Save** to save the test/study guide.

> **NOTE**
> When you create a test, the program encrypts the answer information so that students cannot see the answers in the HTML page source. While this does help to prevent cheating, there is no foolproof method in an unsupervised environment.

Next Steps

Post the test/study guide to a server to make it available to your students.

> **NOTE**
> Posting to a server can be a complex process. The specific steps will vary depending on the hardware and software configuration of your server. If you are not familiar with the required steps, contact your network administrator for assistance.

Verify that students can access the test. You may also want to try the *Grade & Submit* feature for tests to make sure that the results are emailed to the correct address.

Posting a Test to a Website

Posting to a server can be a complex process. The specific steps will vary depending on the hardware and software configuration of your server. If you are not familiar with the required steps, contact your network administrator for assistance.

1 Open an **FTP program or other utility** that allows you to copy files from your hard drive to an internet/intranet server. After you save a test/study guide formatted for the internet, you must post all of the related files to a location on a server that your students can access. You can post the files to a local area network, intranet server, or an internet server. You must, however, have an active internet connection for students to be able to submit test results. (This is not required for a study guide.)

2 **Log in** to your server.

3 Create a **new folder (if necessary)** on your server to hold the test/study guide files.

4 Copy the **HTM file** and the **accompanying folder** to a location on your server that your students can access. When you save an internet test to your hard drive, ExamView Test Generator creates an HTML file and an accompanying folder with all of the necessary image files. This makes it easier for you to post the files to a web server. If, for example, you enter chapter1 for the test file name, the software creates a file called chapter1.htm and a folder called chapter1_files.

> **IMPORTANT**
> By default, all of the file names are lowercase. Do not change the case since these files are referenced in the HTML document. You must copy the HTML file and the accompanying folder as is. Do not copy the HTML file into the corresponding folder.

5 Log off the server, if necessary.

6 Record the URL for the test/study guide HTML document or set up a link to the test.

Taking a Test Using the Internet

ExamView tests may be taken via the internet. An active internet connection is required to take a test.

> **IMPORTANT**
> You must use a browser such as Netscape 7.0/Internet Explorer 5.0 (or a more recent version), or FireFox that supports cascading style sheets level 1 (CSS1) and JavaScript. An active internet connection is required to submit test results.

1. Open your web browser.
2. Depending on where the test is published, perform the following step:
   - If test is available on the internet, type the **web address (URL)** and **test name** (e.g., www.school.edu/economics/test1.htm), or enter an address for a page with a link to the test.
   - If the test is located on a local area network, use the **open page** command in the browser to open the test.
3. Optionally, enter your **name**, **student ID** and **email address**.
   This information is sent via email to the instructor when a test is completed. None of the information is used for any other purpose.
4. Answer all of the questions.
5. When you complete the test, review your responses and then click **Grade & Submit** located at the bottom of the test.
   Your results will be emailed to your instructor. Depending on the test settings, you may be notified of your results immediately.
6. Close your browser or go to another page.

Taking an Internet Study Guide

ExamView study guides may be taken using the internet.

> **IMPORTANT**
> You must use a browser such as Netscape 7.0/Internet Explorer 5.0 (or a more recent version), or FireFox that supports cascading style sheets level 1 (CSS1) and JavaScript. An active internet connection is required to submit test results.

1. Open your web browser.
2. Depending on where your instructor published the study guide, perform the following step:
   - If your instructor published the study guide (or practice test) to a website, type the **web address (URL)** and **study guide name** (e.g., www.school.edu/economics/study1.htm), or enter an address for a page with a link to the study guide.
   - If the study guide is located on a local area network, use the **open page** command in the browser to open the study guide.
3. Enter your **name**.
4. Answer all of the questions.
5. When you complete the study guide, review your responses and then click **Check Your Work** located at the bottom of the study guide.
   Your work is scored and the browser will identify whether you answered each question correctly or incorrectly. No results are sent to your instructor.
6. Click the **Retake** button to erase all of your responses if you want to start over.
7. Close the browser or go to another page.

Publisher Websites

Before you can post a test to a publisher's website, you must provide login information such as an instructor ID and a password. Contact your publisher directly to register for an account to obtain this information. Check with your sales representative or the publisher's website for more details.

Publishing a Test to a Publisher's Website

An internet connection is required to publish a test.

> **NOTE**
> Because of space and bandwidth limitations, multimedia links set in the *Question Info* window are not supported with the test-hosting service. If you want to link a multimedia object (movie, audio, image, etc.) to a question, use the hyperlink feature. You must place the media objects on your own server or intranet. You can also link to other web sites.

1. Create a test just as you would create a test to be printed.
   Select the questions you want to include on the test. Make any changes, add new questions, or change the formatting as desired. Click **Save** to save the file.
2. Click **File** from the menu bar, mouse over **Publish to** and select the name of the **publisher website**.
3. **Name** the test.
4. Enter your login information (such as an instructor ID and password).
   If you do not already have account login information, contact the publisher to register for an account.
5. Review the summary information. Click Back if you need to make changes.
6. Click **Publish** to post the test to the publisher's website.
   The program automatically connects to the internet and posts the test/study guide to the publisher's server.

The Word Processor

ExamView Test Generator comes with a built-in word processor tool that allows you perform several word processing functions.

This chapter covers the following topics:

The Word Processor Toolbar
Paragraph, Characters and Objects
Pictures
Tables

The Word Processor Toolbar

Click View from the menu bar and select Toolbar to display or hide the toolbar. A check mark will appear next to the menu option when the toolbar is displayed. You do not need the toolbar when editing, but it is often a faster way to format a question.

	Click the Undo, Cut, Copy, and Paste button as you create or edit a question.
	Click Find to find text.
	Click Spell Check to check the spelling in your test/bank.
	Click Recalculate to recalculate values for dynamic questions.
Arial 11	Click the Font and Size boxes to format text.
	Set the current text selection to bold, italic, and/or underline by clicking the corresponding toolbar buttons. If no text is selected, clicking these buttons turns the style on or off.
	Click the desired text alignment button (left, center, right, or justified) and toggle the tab button (left, center, right, or decimal) to set the current default tab style. The tab style determines the tab type for any new tab you create by clicking on the ruler.
	Click Help to access the help topics.

Paragraph, Characters and Objects

This section covers the following topics:

Using the Word Processor Ruler

All ruler settings apply to paragraphs. Any formatting changes you make using the ruler apply to the current paragraph. If you want to format more than one paragraph at a time, select those paragraphs before making the ruler changes.

1. Click **View** and select **Ruler** to display or hide the ruler. A check mark appears next to the menu option when the ruler is displayed.

2. Set a tab by clicking on the ruler where you want to insert the new tab. To set the tab type, click the corresponding tab (left, right, center, or decimal) button on the toolbar before clicking on the ruler.
3. To remove a tab, click on it and drag it off the ruler.
4. To move a tab, drag it to its new location.
5. Set an indent by moving the top or bottom left indent indicator. Move the bottom part to set a hanging indent.
6. Change the left indent by dragging both the top and bottom indent indicators. To drag both at the same time, hold down the Alt (PC) or Option (Mac) key while you drag the lower indent indicator.
7. Adjust the right indent by dragging the right indicator.

Formatting Paragraphs

1. Position the cursor in the paragraph to format. If you want to apply a formatting change to more than one paragraph, select the paragraphs or the rows/columns/cells in a table that you want to change.

2 Click **Format** from the menu bar and select **Paragraph**.

> **TIP**
> For some of the paragraph settings, you can use the ruler and toolbar to make a change. For example, click an Alignment button to change from left justification to center justification. Or, drag the indent controls to set a hanging indent.

3 Set the paragraph format.
   - **Indentation** - The indentation settings let you adjust the indent (in inches) from the left and right margins. To set a hanging indent, click the Special box and choose Hanging. Then, set the size of the indent. You can also use this feature to create a first line indent.
   - **Spacing** - Use the spacing options to control the spacing before and after a paragraph. Set the spacing in points (72 points equal 1 inch). You can also set the line spacing within a paragraph—single, 1.5, double, and 2.5.
   - **Alignment** - You can select any of the following alignment options—left, center, right, full.

4 Click **OK** to apply the formatting changes.

Formatting Fonts

1 Select the text you want to change, or position the cursor at the location where you want to apply the font change.

2 Click **Format** from the menu bar and select **Font**.

3 Set the **font attributes**.
   A font includes the font name (Times New Roman, Courier, ...), font style (regular, italic, and bold), size, underline, color, and effects (strike thru, superscript, and subscript). Use the Font command to change any or all of these text attributes.

> **TIP**
> For many of the font attributes, there are shortcuts you can use. For example, press Ctrl+B (PC) or Cmd+B (Mac) to turn on/off the bold font style. Or, select the font name and size using the toolbar.

4 Click **OK** to apply the formatting changes.

Showing or Hiding Codes, Variable Names and Question Tags

1 To show or hide codes, click **View** and select **Codes** to display or hide “invisible codes” such as tabs and paragraphs in a question.
   A check mark appears next to the menu option when codes are displayed. These codes can be helpful when entering or editing a question. The codes do not appear when you print a question bank or a test.

2 To show or hide variable names click **View** and select **Variable Names** to display variables names versus variable values in a question.
   A check mark appears next to the menu option when variable names are displayed. The variable names do not appear when you print a test.

3 To show or hide question tags click **View** and select **Question Tags**.
   A check mark appears next to the menu option when question tags are displayed. These tags help you easily find dynamic content and bimodal questions. These tags do not print when you print a question bank or test.

- With the Question Tags option turned on, the recalculate symbol appears in the left margin next to any questions with dynamic content (algorithms).

> **NOTE**
> Questions marked with the recalculate tag will not necessarily change when you recalculate your test or bank. The variables used in the question may be defined with a single value that does not change, or the dynamic variables may be located in a narrative instead of the question itself.

- With the Question Tags option turned on, the bimodal symbol appears in the left margin next to any bimodal questions.

Using Undo, Cut, Copy and Paste

How to undo typing or the most recent command...

1. Click or press Ctrl+Z (PC) or Cmd+Z (Mac)
   If the last command cannot be undone, the button will be disabled and the Edit menu will show Can't Undo.
2. Click again to revert back to the original if you accidentally selected the Undo command.

How to cut (remove) text or pictures...

1. Select the **text or picture** or the **row or column** you want to remove.
2. Click or press Ctrl+X (PC) or Cmd+X (Mac) to remove the text or picture. ExamView Test Generator cuts the text or picture and places it on the Clipboard.
3. To remove text or a picture from a question without placing it on the Clipboard, click **Edit** and select **Clear**.

How to copy text or pictures...

1. Select the **text or picture** or the **row or column** you want copy.
2. Click or press Ctrl+C (PC) or Cmd+C (Mac) to place a copy of the text or picture on the Clipboard.
   Once you copy text or a picture, you can paste it into the same question, another question, or a different application. For example, you can use a paint program to create an image, copy it, and then paste it into a question.

> **TIP**
> If you want to duplicate an entire question (except for matching groups) within the same test or bank, use the Duplicate command in the Question menu. If you want to copy an entire question to a different test, bank, or to a word processor, use the Copy command in the Question menu.

How to paste text or pictures...

1. Position the cursor where you want to insert the text, picture, column, or row.
2. Click or press Ctrl+V (PC) or Cmd+V (Mac) to paste the contents of the Clipboard into the current question.

> **TIP**
> If you copied a multiple choice question, a set of matching choices, or a group of matching questions, you can press F7 (PC) or Cmd+P (Mac) to use the Smart Paste feature rather than the normal Paste feature, Ctrl+V (PC) or Cmd+V (Mac). ExamView Test Generator automatically formats the text when it pastes the text into a new question.

> **EXAMPLE**
> Copy a multiple choice question and its choices from a word processing document. Choose to create a new multiple choice question and press F7 (PC) or Cmd+P (Mac). ExamView will paste the question stem text and then automatically paste each choice into the corresponding table cell.

Using Find and Replace

How to find text in a question...

1. Click or click **Edit** and select **Find**, or use the keyboard shortcut Ctrl+F (PC) or Cmd+F (Mac).
2. Enter the **text** you want to locate and set the search options.
   If you want to find text that exactly matches the case of your search text, click Match case. Click Find whole words only to locate only complete words. When this option is not selected, the program will find all occurrences of a word, even partial words. For example, searching for "the" will find "the," "there," and "them." Select From cursor to have the program start searching from the location of the cursor. When this option is off, the program always starts searching from the beginning of the question.
3. Click **Find** to begin the search.
4. To find the next occurrence of the same word or phrase, click **Find Again** or use the keyboard shortcut F3 (PC) or Cmd+G (Mac).

How to replace text in a question...

1. Click **Edit** and select **Replace**, or use the shortcut Ctrl+R (PC) or Cmd+R (Mac).
2. Enter the **text** you want to find and the replacement text.
3. Set the **search options**.
   If you want to find text that exactly matches the case of your search text, click Match case. Click Find whole words only to locate only complete words. When this option is not selected, the program will find all occurrences of a word, even partial words. For example, searching for “the” will find “the,” “there,” and “them.” Select From cursor to have the program start searching from the location of the cursor. If you don't want the program to confirm each replacement, turn off the Prompt to replace option.
4. Click **Replace** to replace only the first occurrence. Click **Replace All** if you want the program to find and replace all occurrences of the text.

Inserting a Symbol or Foreign Character

How to insert a symbol or special character (math symbol, bullet, etc.)...

1. Click **Insert** and select **Symbol**. Make sure that **All characters** appears in the *Subset* drop-down menu.
2. Select **Symbol** from the *Font* drop-down menu. Double-click any symbol to insert it into the question.
3. Click the **Special Characters** tab. Double-click any special character to insert it into the question.

How to insert a foreign character...

1. Click **Insert** and select **Symbol**.
2. Select **(normal text)** from the *Font* drop-down menu.
3. Select a **language** (Spanish, French, Haitian-Creole, or German) from the *Subset* drop-down menu. The program highlights those characters that are unique to the selected language.
4. Double-click any **character** to insert it into the question.

Inserting/Editing an Equation

1. Position the cursor at the location where you want to insert the equation.
2. Click **Insert** and select **Equation** or use the keyboard shortcut Ctrl+E (PC) or Cmd+E (Mac).
3. Use the Equation Editor to enter a new mathematical equation.
4. Click **Record** to record the equation.
   The equation is inserted at the current cursor location.
5. Double-click the equation you want to edit or select the equation and click **Format** and select **Format Equation**.
6. Add or edit information as necessary.

> **NOTE**
> After you insert the equation, you cannot resize it, set the baseline, or move it in a question by clicking or dragging. If you need to move an equation, click on it, cut the equation, and paste it at the new location.

Inserting/Editing a Hyperlink

You can use a hyperlink in an internet test to link to another Web page (URL), a document, a movie, etc. The link can be to your site or to any other site on the internet.

1. Position the cursor at the location in the question where you want to insert the hyperlink.
2. Click **Insert** form the menu bar and select **Hyperlink**.
3. Enter the text you want to appear in the question.

4 Specify the URL (uniform resource locator) address (e.g., www.servername.com/webpage.html).

> **NOTE**
> You can specify a link to another website (e.g., http://www.turningtechnologies.com) or you can link to a file on your local area network (e.g., file://U/media/movie.mpg).

5 Set the display color and identify whether the browser should open the link in a new window.
6 Click **OK** to insert the hyperlink.
7 To format (edit) a hyperlink:
   a Click the **hyperlink** you want to change.
   b Click **Format** from the menu bar and select **Format Hyperlink**.
   c Edit the hyperlink properties.
   d Click **OK** to insert the edited hyperlink.

Inserting/Editing a Graph

1 Position the cursor at the location where you want to insert the graph.
2 Click **Insert**, mouse over **Graph** and select **Cartesian**, **Polar**, or **Number Line**.
3 Add or edit information in the **Functions**, **Axes**, **View**, and **Web** tabs as necessary.
4 Click **OK**.
   The graph is inserted at the current cursor location.

> **NOTE**
> After you insert a graph, you cannot move it in a question by clicking or dragging. If you need to move a graph, click on it, cut the graph, and paste it at the new location.

5 To edit an existing graph, double-click the **graph** and add or edit information in the **Functions**, **Axes**, **View**, and **Web** tabs as necessary.
6 To delete an existing graph, select the **graph** and press the **Delete** key.

Inserting a Variable

Variables may be inserted into a question, answer, matching group or narrative.

1 Position the cursor at the location where you want to insert the variable.
2 Click **Insert** from the menu bar and select **Variable**.
3 Select the **variable** you want to insert from the list of variables and click **Insert**.
   If you need to create a new variable, click **New**.
   The variable is inserted at the current cursor location. When a variable is inserted, the program automatically toggles the editor to show variable names.
4 If you need to make changes to a variable after it has been recorded, click **Edit** and select **Algorithm Definitions**, or select the **variable**, click **Format** from the menu bar and select **Format Variable**, or simply double-click the variable name or value.

Working with Tabs

How to insert a new tab...

1. Position the cursor in the paragraph in which you want to add a new tab. If you want to insert a tab in more than one paragraph, select the paragraphs to change.
2. Click **Format** from the menu bar and select **Tabs**.
3. Enter the **Tab stop position** (in inches) from the left margin, or use the up and down arrows to set the tab stop. Valid tab stops start at 0.00" and continue in 1/16 inch increments (0.00", .0625", .125", .1875", .25", 5.75").

> **TIP**
> You can use your mouse to set, move, and delete tabs on the ruler.

4. Optionally, change the **alignment**.
5. Optionally, select the **leader** type.
6. Click **Set** to insert the new tab.
7. Enter another tab or click **OK** when you finish.

How to change a tab setting...

1. Position the cursor in the paragraph(s) that includes the tab stop you want to change.
2. Click **Format** from the menu bar and select **Tabs**.
3. In the tab stop position list, select the **tab stop** to change.
4. Optionally, change the **alignment**.
5. Optionally, change the **leader** type.
6. Click **Set** to apply the changes to the tab stop.
7. Edit another tab setting or click **OK** when you finish.

How to delete a tab...

1. Position the cursor in the paragraph(s) that includes the tab stop you want to delete.
2. Click **Format** from the menu bar and select **Tabs**.
3. In the tab stop position list, select the **tab stop** to delete.
4. Click **Clear** to remove the tab or **Clear All** to delete all of the tab stops.
5. Click **OK** when you finish.

Formatting Borders and Shading

1. Position the cursor in the paragraph to format. If you want to apply a formatting change to more than one paragraph, select the paragraphs you want to change.
2. Click **Format** from the menu bar and select **Borders and Shading**.
   You can format text using a variety of borders and shading. As with other formatting commands, these settings apply to the current paragraph or paragraphs only.

> **NOTE**
> If multiple, consecutive paragraphs have the same border style, you can click the “middle” border to set the border to be used between paragraphs.

3. Click the **Borders** tab.
4. Select the **line style**.
5. Select a **line color** from the *Color* drop-down menu.
6. In the *Borders* box, click **Box** to apply the border to all four sides. Or, click in the preview area to apply the border to selected sides. To remove a border from a side, click it again. You can apply different style borders to each side.

> **NOTE**
> If there are existing borders, you can use the “eye dropper” tool to set the border style. Move the pointer to the Border preview area. Hold down the Ctrl (PC) or Option (Mac) key (the cursor changes to an eye dropper) and click on an existing border to select that style and color.

7. Click the **Shading** tab.
8. Select the desired **fill pattern**.
9. Select a **foreground color** from the *ForeGround* drop-down menu.
10. Select a **background color** from the *Background* drop-down menu.
11. Click **OK** to apply the borders and shading settings.

Copying/Applying Ruler Settings

Copying a ruler copies these settings: tabs, indents, alignment, borders, spacing, and shading.

1. Position the cursor anywhere in a paragraph from which you want to copy its ruler settings.
2. Click **Format** from the menu bar and select **Copy Ruler**.
3. Select **one or more paragraphs** you want to format using the ruler settings you just copied.
4. Click **Format** from the menu bar and select **Apply Ruler**.

Copying/Applying Style Settings

Copying a style copies these settings: font, size, and style (bold, underline, color, etc.) If you just want to change some text to bold, it's easier to click the Bold toolbar button. However, it can be faster to copy and apply styles when the text you want to format uses multiple formatting options.

1. Position the cursor anywhere in a text block from which you want to copy its style.
2. Click **Format** from the menu bar and select **Copy Style**.
3. Select the **text** you want to format using the settings you just copied.
4. Click **Format** from the menu bar and select **Apply Style**.

Pictures

This section covers the following topics:

Inserting a Picture
Formatting Pictures

Inserting a Picture

1. Position the cursor at the location where you want to insert the picture.
2. Click **Insert** and select **Picture**.
3. The default picture type is bitmap (BMP). Click the *Files of type* drop-down menu and select the type of picture files you want to insert. ExamView supports most common graphic formats including: BMP, GIF, JPG, PCT, and WMF.
4. Navigate to the desired **file location**.
5. Select the **file** and click **Open**.
   The picture is inserted at the current cursor location.
6. After you insert a picture, you can resize it or set the baseline.
   You cannot move an image in a question by clicking and dragging it. If you need to move an image, click on it, cut the picture, and paste it at the new location.

> **TIP**
> Another way to insert a picture is to copy an image from another application (such as Paint) and paste it into a question or answer. If you have an image file that is not supported by ExamView Test Generator, try opening it in another program. Then, copy and paste it into a question.

Formatting Pictures

1. Click the picture you want to change. A border with handles (small squares) appears around the image.
2. Click **Format** from the menu bar and select **Format Picture**.
3. From the *Size* tab, check the box labeled **Lock aspect ratio** if you want the program to automatically adjust the image in proportion to a change in either width or height.
   Set the **scale** and or **size** of the image.

Click a picture to select it. Then, drag one of the handles (small boxes) on a side to adjust the width/height without maintaining the aspect ratio.

To resize an image while maintaining its aspect ratio (proportions), drag any of the handles on the corners.

Set the baseline. The baseline of an image determines its vertical position on a line. By default, the baseline of an image aligns with the baseline of the text in the current paragraph.

Click the baseline (dotted line) or, if the baseline is at the bottom of an image, click to the left or right of the handle. The cursor will change as shown in the example. Drag the baseline to its new position.

> **TIP**
> You can also use the mouse to directly adjust the size of an image or set its baseline.

4. From the *Picture* tab, you can select the **Picture type** that requires the least amount of memory while retaining the desired picture quality.
5. Use the **Crop from** feature if you want to cut any sections off the edges of the picture.
6. From the *Web* tab, enter alternate **Web text**.
7. Click **OK** to apply the picture format changes and close the Format Picture dialog. Or, click **Apply** to apply the format changes and leave the *Format Picture* window open. After you have finished, you may click **Edit** from the menu bar and select **Undo** to undo your changes.

Tables

This section covers the following topics:

Inserting a Table

1. Position the cursor where you want to insert the new table.

> **NOTE**
> You cannot insert a table within an existing table.

2. Click **Table** from the menu bar and select **Insert Table**.
3. Enter the **number of columns and rows**.
4. Set the cell width. Select **Automatic** if you want the program to automatically assign the cell widths, or **Manual** and enter the cell width in inches.
5. Click **Format** to select a predefined table layout.
6. Select one of the **predefined table layouts** from the *Formats* list.
7. Optionally, set the **Formats to Apply** options.
   These options let you customize the predefined format. For example, you can turn off the borders or shading leaving all of the other formats as is.
8. Optionally, set the **Apply Special Formats To** options.
   You can selectively apply the format settings to the first row, first column, last row, and last column.
9. Click **OK** to close the *Table Format* window.
10. Click **OK** to insert the new table.

11 To delete a table, click in it. Click **Table** from the menu bar and select **Select Table** and press **DELETE**.

> **TIP**
> If you created a table on the first line of a question, you can insert a blank line before the table. Click in the first row, click Table from the menu bar and select Split Table.
>
> If you have a table on the first line of a question, move the insertion point with the arrow keys to the beginning of the first cell in the table. Then, press Enter (PC) or Return (Mac) to insert a blank line before the table.

Inserting/Editing Rows and Columns

1 Select one or more rows, columns, or cells.
The number of rows, columns, or cells that the program inserts depends on how many items you have selected. For example, if you have three rows selected, the program will insert three new rows.

2 Click **Table** from the menu bar and select **Insert Rows**, **Insert Columns**, or **Insert Cells**.

> **NOTE**
> The menu command changes from Insert Rows to Insert Columns to Insert Cells depending on whether you have a row, column, or cell selected.

If you choose to insert a new row, the program inserts the new row above the selected row. When you insert new columns or cells, the program inserts them to the left of the selected item.

> **NOTE**
> You cannot change the layout, insert new rows or columns, or make any other changes to the predefined multiple choice and matching tables.

3 To delete a cell, row, or column:
   a Select one or more cells, rows, or columns.
   b Click **Table** from the menu bar and select **Delete Cells**, **Delete Rows**, or **Delete Columns** to delete the selected items.

> **NOTE**
> You cannot change the layout, delete rows or columns, or make any other changes to the predefined multiple choice and matching tables.
>
> While working with a table, you can delete (or remove) cells, rows, and columns. The corresponding menu command may show Delete Cells, Delete Rows, or Delete Columns depending on what items you have selected.

Formatting Existing Tables

1 Position the insertion point cursor anywhere within the table.

2 Click **Table** from the menu bar and select **Table Format**.

3 Select one of the **predefined table layouts** from the *Formats* list.

4 Optionally, set the **Formats to Apply** options.
These options let you customize the predefined format. For example, you can turn off the borders or shading leaving all of the other formats as is.

5 Optionally, set the **Apply Special Formats To** options.
You can selectively apply the format settings to the first row, first column, last row, and last column.

6 Click **OK**.

Merging Cells

The Merge Cells command allows you to combine one or more cells in the same row or column to form one new cell. For example, you might want to join all the cells in the top row.

1 Select two or more adjacent cells. You can join cells that are in the same row or cells that are in the same column.

> **NOTE**
> You cannot change the layout, join cells, or make any other changes to the predefined multiple choice and matching tables.

2 Click **Table** from the menu bar and select **Merge Cells**.

Splitting Cells

1 Select one or more adjacent cells.

> **NOTE**
> You cannot change the layout, split cells, or make any other changes to the predefined multiple choice and matching tables.

2 Click **Table** from the menu bar and select **Split Cells** to divide one cell into two or more cells.

3 If you selected two or more cells, click Merge cells before splitting to combine the selected cells before splitting the cell into columns. If you selected cells that span multiple table rows, you can enter the number of rows as well.

4 Enter the **number of columns** or **number of rows** for the new cell.

5 Click **OK**.

Converting a Table to Text

1 Select the table you want to convert to text.

> **IMPORTANT**
> You must have the entire table selected before you can choose the Table to Text command. Use the Select Table command if you have difficulties highlighting an entire table.

2 Click **Table** from the menu bar, mouse over **Convert** and select **Table to Text**.

3 Select the **Separate Text At** option.

4 Click **OK** to convert the table.

Converting Tabular Text Into a Table

> **TIP**
> If you plan to create internet tests with tabular material; you should use tables, not tabs.

1. Select the text you want to convert to a table.
   For best results, the text should be separated by tabs or commas.
2. Click **Table** from the menu bar, mouse over **Convert** and select **Text to Table**.
3. If necessary, change the **number of columns** and **table format**.
4. Select the **Separate Text At** option.
5. Click **OK** to convert the text.

Splitting a Table Into Two Separate Tables

1. Click in the row where you want to split the table. All rows above the selected row will be placed in one table, and the selected row and all subsequent rows will be placed in a new table.
2. Click **Table** and select **Split Table**.

> **TIP**
> If you created a table on the first line of a question, you can insert a blank line before the table. Click in the first row, click Table and select Split Table.

Adjusting Table Cell Height and Width

How to adjust table cell height and width using the menu command...

1. Select a column or row if you want to change a specific column or row height/width. If you simply place the cursor inside a table, the default column and row is 1.
2. Click **Table** from the menu bar and select **Cell Height and Width**.
3. To adjust the row height:
   a. Click the **Row** tab.
   b. Select the **Height of row option** from the drop-down menu.
   c. If necessary, enter a **row height in points** (72 pts = 1 inch).
   d. Select the **Alignment** option from the drop-down menu.
   e. Click **Next Row** to change to the next row and then set the cell height.
4. To adjust the column width:
   a. Click the **Column** tab.
   b. Enter the **width of column 1** (in inches) if you need to adjust this cell.
   c. Click **Next Column** to change to the next column and then set the cell width.
   d. If you want the program to automatically adjust all cells in a table to fit within the margins, click **Autofit**.

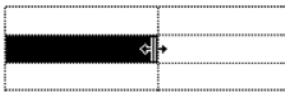
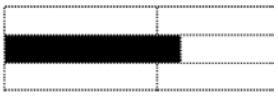
5 Click **OK**.

> **TIP**
> With ExamView Test Generator (as with other word processors), it is possible to create a table where some columns go past the right margin. In these instances, you can't use the mouse to adjust the cell width. You can use the Cell Height and Width command to set the cell width for those cells you cannot access with the mouse.

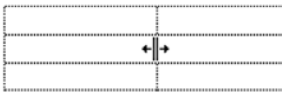
How to adjust table cell height and width using the mouse...

1 To set the cell width using the mouse:
   a Select a cell if you want to change the width for that cell only. To set the cell width for all cells in a column, select the column or make sure that no individual cells are selected.
   b Position the mouse pointer on either the left or right cell border. When the pointer changes to a resize cursor, hold down the mouse button to drag the border to the new location. Alternatively, you can drag the cell column indicators shown on the ruler.

Resizing one cell using grid lines:

Resizing a single cell	Cell width after resizing
	

Resizing a column using grid lines:

Resizing a column	After resizing
	

Resizing a column using ruler controls:

2 To set the row height using the mouse:
   a Position the mouse pointer on the bottom edge of a row border.
   b When the pointer changes to a resize cursor, drag the border to the new location. This has the same effect as changing the row height to “At least” the positioned value.

Aligning Columns

The Align Columns command resets an entire table so that all cells align in a column format. Although you can manually align the columns of a table by dragging the cell grid lines, this command makes the job much easier.

1. Position the cursor anywhere in the table you want to align.
2. Click **Table** from the menu bar and select **Align Columns**.

> **TIP**
> Even if you do not want to align an entire table, it may sometimes be faster to align all columns and then change the alignment for one or two cells.

Applying Borders and Shading to Tables

1. Select the cells, rows, or columns you want to format.
   To apply the borders and shading to an entire table, you can select the entire table or simply position the insertion point cursor inside the table without a selecting any rows, columns, or cells.
2. Click **Table** from the menu bar and select **Borders and Shading**.

> **NOTE**
> If multiple, consecutive paragraphs have the same border style, you can click the “middle” border to set the border to be used between paragraphs.

3. Click the **Borders** tab.
4. Select the **line style**.
5. Select a **line color** from the *Color* drop-down menu.
6. In the *Border* box, click **Box** to apply the border to all four sides. Or, click in the preview area to apply the border to selected sides. To remove a border from a side, click it again. You can apply different style borders to each side.
7. Click the **Shading** tab.
8. Select the **fill pattern**.
9. Select the **foreground color** from the *ForeGround* drop-down menu.
10. Select the **background color** from the *Background* drop-down menu.
11. Click **OK** to apply the borders and shading settings.

> **NOTE**
> If there are existing borders, you can use the “eye dropper” tool to set the border style. Move the pointer to the Border preview area. Hold down the Ctrl (PC) or Option (Mac) key (the cursor changes to an eye dropper) and click on an existing border to select that style and color.

Setting Table Properties

1. Position the cursor anywhere inside a the table you want to format.
   Using the table properties, you can set the table alignment and choose to not break the table across pages.

2. Click **Table** from the menu bar and select **Table Properties**.
3. Select the **alignment** and **page break** option.
4. Click **OK**.

The Equation Editor

You can create or edit mathematical equations with ExamView Test Generator. An equation is a series of numbers, mathematical symbols (+, -, ÷ , etc.), and templates. A template is an arrangement of slots in an equation to form a single mathematical unit. Templates may represent fractions, integrals, parentheses groups, square roots, matrices, and many other mathematical structures.

An equation can be as simple as

$$3 + 4 = 7$$

or as complex as

$$\sin x = \sum_{k=0}^{\infty} \frac{(-1)^k}{(2k+1)!} x^{2k+1} \text{ for every} x \text{in} \mathbb{R}.$$

This chapter covers the following topics:

The Equation Editor Menu Bar

The Equation Editor menu bar includes the following menus, along with the standard File, Edit and Help menus.

Zoom Menu

The equation editor allows you to view your equation in one of three different ways while you are editing it—100%, 200%, or 400%.

If you can view the equation at 100%, you are viewing it the way the equation will be displayed on the visual test. This is also the size the equation will be when printed.

For some elements of the equation, such as superscripts and subscripts, it is much easier to see them during entry and editing if the equation is magnified to 200% or 400%.

The default setting for the equation editor for PC is 100%. If you change the zoom setting while editing an equation, the new setting will be retained by the equation editor from session to session until you change it again.

> **NOTE**
> The zoom setting has no effect on the way that the equation is displayed or sized once it has been recorded and placed in the question or narrative. If you want a particular equation to be larger permanently, you need to change the default sizes in the equation preferences.

Alignment Menu

Often an equation will need to be entered on multiple lines.

When this is true, you will need to decide how to align the slots in the pile (in the above case, there are three). A pile is a group of slots in the same template (or in the case above, not in any template at all) which were created by pressing the Enter key. In the above example, Eenter was pressed after the ")" at the end of each of the first two lines.

A pile can be aligned in any of the following ways:

- left aligned (default)
- center aligned
- right aligned
- aligned at equals
- aligned at decimal point

Until you have multiple slots in the same pile, the alignment changes are not noticeable. If you have inserted a matrix template you can also set the alignment for the individual cells of the matrix or table.

Style Menu

The equation editor saves you time and effort by making decisions as to which style to use for a particular mathematical element. You may also use the Style menu to set the style of a particular section of your equation. Although each style listed below is predefined, you can set the defaults yourself by changing the equation preferences.

The Style menu has the following options:

- **Math** - This is the default style setting. For many equations, you will never need to change this setting. When the default style is Math, the equation editor will format functions (sin, cos, etc.), variables (x, y, z), greek symbols (a, b, c, A, B, C), other math symbols (+, -, =), and numbers (0-9) automatically as you type them. With this style, characters are also spaced out by looking at the context in which they are used.
- **Text** - This is the style you would choose if you need to enter a text phrase in the middle of an equation.
- **Function** - This is the style used automatically for mathematical functions like sin, cos, log, max, etc. If you use a function that the equation editor does not recognize, you can assign the correct style by highlighting the function name and choosing Function from the Style menu. The default style for function names is Times New Roman, Regular.
- **Variable** - Likewise, if the equation editor determines that one of the variables that you are using in your equation has the same name as a common function call, it will assign it the Function style. To override this and keep the appearance looking like a variable, choose Variable from the Style menu. The default style for a variable is Times New Roman, Italic.
- **Greek** - If you set the style to Greek, any alphabetic key (A-Z, a-z) that you key will appear as the corresponding Greek character. If you cursor around, this mode will be canceled and additional alphabetic characters keyed will appear as normal. The default style for lowercase Greek characters is Symbol, Italic and for uppercase Greek characters is Symbol, Regular.

> **TIP**
> If you want to key just the next character as a Greek character, it is better to use the shortcut Ctrl+G.

- **Matrix-Vector** - If you set the style to “Matrix-Vector”, any alphabetic key (A-Z, a-z) that you key will appear in Matrix-vector style (typically bold and non-italic).

Size Menu

The size of text, symbols, and templates in the equation editor are preset. There are five predefined sizes which are referred to below. You can choose to let the equation editor handle sizing text for you, or you can choose to set the size of a range of text

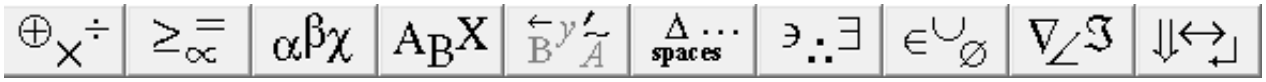
yourself by highlighting the text and choosing one of the options shown below. You can make changes to the default sizes yourself by changing the equation preferences.

The Size menu has the following options:

- **Full** - This is the default size for text and symbols keyed in the “main” or primary slot (default of 11 pt).
- **Subscript/superscript** - This is the default size for superscripts, subscripts, limits, reduced fractions, and arrow labels (default of 7 pt).
- **Small subscript/superscript** - This is the default size for superscripts, subscripts, limits, reduced fractions, and arrow labels applied to parts of the equation which were already subscript (default of 5 pt). This is the smallest size that the equation editor will automatically use.
- **Symbol** - This is the default size for the symbol used in summation templates, integral templates, and product/set theory templates (default of 18 pt).
- **Small Symbol** - This is the default size for the symbol used in summation templates, integral templates, and product/set theory templates in parts of the equation which were already subscript (default of 11 pt).
- **Other size** - With this option you can set the size of any character or symbol in the equation directly. Allowable sizes range from 4-99 pt.

Creating an Equation

1. Position the cursor where you want the equation to appear in the question or narrative.
2. Click **Insert** from the menu bar and select **Equation**.
   The *Equation Editor* window opens. You will see a flashing cursor in a dotted box.
   The box represents a slot. An equation is composed of one or more slots which contain numbers and mathematical symbols. Although the simplest of equations, like the one introduced above, might contain only one slot, most equations contain multiple slots which, when arranged by the equation editor, form an equation.
   There are two toolbars across the top of the screen. The topmost toolbar (as presented below) shows a variety of operators, mathematical symbols, Greek characters, and character accents.



   Under the symbol toolbar, you can see the template toolbar (as shown below). A template is used to arrange slots to form parts of a mathematical equation. One such template would represent a stacked fraction, where one slot would contain the numerator, one slot would contain the denominator, and there would be a fraction line in between the two slots.

   In addition to the toolbars, you can use the *Zoom*, *Alignment*, *Style*, and *Size* menus to manipulate elements of the equation.

3 For practice, enter the simple equation (3 + 4 = 7). Key the following into the empty slot: **3+4=7**

> **NOTE**
> You do not need to press the space bar in between any of the characters when you are keying an equation using Math style. All spacing is done for you to conform to mathematical style conventions. You can adjust any of the spacing amounts for a particular equation or for all future equations using the Equation Preferences option. The different styles are discussed under the Style menu topic.

4 The equation could be recorded at this point. Since we are just practicing, click **Edit** and select **Select All** and then click **Edit** and select **Clear** to remove this equation. All of the edit menu features (Undo, Cut, Copy, Paste, etc.) are available to you as you enter or edit equations.

shown at the top of this help topic page. Although this will be covered pretty quickly, you should take time to review the other help topics as necessary.

5 You should try to enter a more complicated equation. Begin by keying the following: **sinx=**

You will notice as you key "sin" that the characters change from italic to plain text when you key the "n". The equation editor is set up to recognize various function names (sin, cos, tan, log, etc.) and to show them a little differently. Variable names, such as "x" in our example, are shown in italic (by default). By doing this, a great deal of time can be saved from formatting the equation by hand. Also, notice that the spacing has been done for you.

6 To enter the summation sign and set the equation up to enter the limits above and below the summation sign, we need to enter a summation template. This can be done by clicking on the summation template button and choosing the option Summation with underscript and overscript limits or we can simply press Ctrl+E.

> **TIP**
> Ctrl+E is the keyboard shortcut to enter this particular summation template. For a complete list of keyboard shortcuts, see ***Equation Editor Keyboard Shortcuts*** on page 86.

When you press Ctrl+E, the program creates three empty slots. The primary slot appears just to the right of the summation sign along with two limit slots, above and below the summation sign. Your screen should look like this:

$$\sin x = \sum_{\square}^{\square} \square$$

7 Leave the primary slot (to the right of the summation sign) empty for a moment and press the Tab key. Notice that the cursor has moved to the slot below the summation sign. You can use the Tab key at any time while entering or editing an equation to move between slots.

8 Key the following into the lower-limit slot: **k=0**

Remember that you do not have to press Enter (PC) or Return (Mac) after you key text.

9 Press the Tab key again to position the cursor in the upper-limit slot.

10 Press Ctrl+K, release both keys and press the I key (as in Infinity). The infinity symbol is inserted into the top slot.

11 Press Shift+Tab two times to return to the primary slot. You could also have pressed the (right arrow) key once or simply used the mouse and clicked in the right most slot.

12 Now we need to create another template, this time a stacked fraction. Press Ctrl+F (again, a shortcut key to create a Fraction). Your screen should look like this:

$$\sin x = \sum_{k=\square}^{\infty} \frac{\square}{\square}$$

13 Key the following into the numerator: **(-1)**

14 Insert the superscript template. PC users can create a superscript by pressing Ctrl+H (for High). A smaller slot is created up and to the right of the (-1).

15 Key the following into the superscript: **k**

16 If you continued to key text at this point, it would also be inserted into the superscript. To exit the superscript slot, press the Tab key once.

> **TIP**
> Notice that the flashing cursor has a vertical part to show you where you will be keying. It also has a horizontal part (underline) that shows you in which slot keyed text will be inserted. This is a good guide to keep track of where you are in an equation.

17 Press the Tab key again to position the cursor in the denominator of the fraction. Again, there are multiple ways to position the cursor in this slot. You can also use the up and down arrow keys to navigate between slots.

18 Key the following into the denominator: **(2k+1)!**

19 Press the Tab key once to move from the denominator slot back to the primary summation slot and key the following: **x**

20 Insert a superscript template (Ctrl+H for PC) and key the following as the superscript: **2k+1**

21 Press the Tab key again to exit the superscript slot. Your screen should look like the following:

$$\sin x = \sum_{k=0}^{\infty} \frac{(-1)^k}{(2k+1)!} x^{2k+1}$$

22 Press the Tab key again to exit the primary slot. Again, check the underline cursor to determine if you are in the correct slot. The underline should go under the entire equation at this point (meaning that you are in the "master" slot).

23 We need to type some spaces at this point and the textual phrase "for every". To do this, press Ctrl+T (for Text style). Notice that the Style menu changes to "Text".

24 Press the space bar four times and key the following: **for every**
And press the space bar one more time.

25 Press Ctrl+M (for Math style) and key the following: **x**

26 Return to text style (Ctrl+T) and press the space bar, the word "in", and press the space bar one last time.

27 To key the mathematical symbol at the end, press Ctrl+K, release both keys, and press Shift+R.

28 Complete the equation by keying the "." at the end. The equation you keyed should match the one shown above. If it does not, review the steps above and the more specific help topics for each of the features.

29 Record the equation by clicking the **Record** button.

30 To edit an existing equation:

- a Double-click on the equation you want to edit, or highlight the equation, click **Format** from the menu bar and select **Format Equation**.
- b Use all of the tools shown above and in the other equation editor help topics to modify the equation as needed.
- c Click **Record** when you are finished.

31 To delete an equation highlight the equation you want to delete, click **Edit** from the menu bar and select **Clear**.

Equation Editor Keyboard Shortcuts

The equation editor in ExamView Test Generator includes numerous shortcut keys to make inserting symbols, inserting templates, adding accents, inserting spaces, and changing font styles as easy as possible. All of the keyboard shortcuts involve the Ctrl key. Templates, style changes, and spaces are inserted by simply pressing Ctrl followed by another key. Symbols are entered by pressing Ctrl+K followed by another key.

Keyboard shortcuts for inserting templates

Template	Key	Description	Template	Key	Description
	Ctrl + D	Long division (Use Shift+Ctrl+D for division with quotient.)		Ctrl + O	Overbar
	Ctrl + E	Summation with underscript and overscript limits		Ctrl + R	Square root
	Ctrl + F	Stacked fraction (Use Shift+Ctrl+F for small fraction.)		Ctrl + U	Underbar
	Ctrl + H	Superscript		Ctrl + (or)	Parentheses
	Ctrl + I	Definite integral with superscript and subscript limits		Ctrl + [or]	Brackets
	Ctrl + J	Superscript and subscript		Ctrl + { or }	Braces
	Ctrl + L	Subscript			

Keyboard shortcuts for changing font styles

Style	Key
Math	Ctrl + H
Text	Ctrl + T
Matrix-Vector[1]	Ctrl + B
Greek[1]	Ctrl + G

[1] - Applies only to the next character keyed.

Keyboard shortcuts for inserting spaces

Style	Key
1/6th em space	Ctrl + Space bar
1/3rd em space	Ctrl + Shift + Space bar

Keyboard shortcuts for inserting symbols

Symbol	Ctrl + K then	Symbol	Ctrl + K then	Symbol	Ctrl + K then	Symbol	Ctrl + K then
$\rightarrow$	A	$\hbar$	H	$\varnothing$	O	$\cup$	U
$\because$	B	∞	I	$\pm$	P	$\vee$	V
$\subset$	C	$\Leftarrow$	J	$\mathbb{Q}$	Q	$\wp$	W
∂	D	$\Rightarrow$	K	$\Re$	R	$\times$	X
$\in$	E	λ	L	$\sim$	S	$\prec$	Y
$\succ$	F	$\mp$	M	$\times$	T	$\int$	Z
∇	G	$\mathbb{N}$	N				
$\forall$	Shift + A	$\therefore$	Shift + H	$\oplus$	Shift + O	$\mathbf{U}$	Shift + U
$\bullet$	Shift + B	$\cap$	Shift + I	$\mathbb{P}$	Shift + P	$\Diamond$	Shift + V
$\not\subset$	Shift + C	$\triangleleft$	Shift + J	$\equiv$	Shift + Q	$\angle$	Shift + W
$\circ$	Shift + D	$\triangleright$	Shift + K	$\mathbb{R}$	Shift + R	$\otimes$	Shift + X
$\notin$	Shift + E	$\mathcal{L}$	Shift + L	$\ni$	Shift + S	$\propto$	Shift + Y
$\mathcal{F}$	Shift + F	$\mapsto$	Shift + M	$\perp$	Shift + T	$\mathcal{Z}$	Shift + Z
$\cong$	Shift + G	$\aleph$	Shift + N				
$\approx$	~	$\neq$	=	$\circledast$	*	$\leq$	<
$\mp$	-	$\geq$	>	$\pm$	+	$\div$	/

Keyboard shortcuts for adding accents to characters

Accent	Key
Prime	Ctrl + '
Star	Ctrl + *
Overbar	Ctrl + _
Double prime	Ctrl + "
Single dot	Ctrl + .
Back prime	Ctrl + `

Navigate an Equation

To...	Press
move to the next character	► (right arrow)
move to the previous character	◄ (left arrow)
move to the end of a slot	End
move to the beginning of a slot	Home
move down one slot	▼ (down arrow)
move up one slot	▲ (up arrow)
move to the next slot	Tab
move to the previous slot	Shift + Tab
add another slot to a pile	Enter (PC) or Return (Mac)

Changing the Equation Editor Preferences

1. Click **Preferences** in the *Equation Editor* window.
   The preferences dialog is divided into three sections—spacing preferences, style preferences, and size preferences.
2. Adjust the preferences as necessary.
   - To restore the default preference settings, click **Defaults**. Any changes you have made to the preference settings for the current equation will be lost.
   - To temporarily apply the preferences to the equation you are editing, click **Apply**. By doing this, you can get a preview of how the changes will look without actually recording them.
   - To save the preferences for not only the equation you are editing but for all equations created in the future, click **Save & OK**.
3. When you have finished with your changes, click **OK** to record them and reformat the equation you are currently editing. If you want to close the window without recording the changed preferences, click **Cancel**.

Inserting Symbols Into an Equation

1. Position the cursor at the location in the equation where you want to insert the symbol.
2. Click the desired symbol on the symbol toolbar.
3. Select the appropriate symbol from the menu.

> **TIP**
> Once a symbol is in the equation, it may be easier for you to highlight the particular symbol, copy it, and then paste it at another location. Also, refer to the keyboard shortcuts for ways to insert operator symbols directly using the keyboard.

Inserting Templates Into an Equation

The following templates are available in ExamView:

- **Subscript and superscript templates**.
- **Delimiter templates** - Delimiter templates include all of the templates dealing with parentheses, arcs, brackets, braces, and other types of fencing characters. All of the templates in this group behave in the same way. The delimiter characters will extend to overhang the contents of the template
- **Fractions and Radical templates** - For fractions, the fraction line will extend to enclose both the numerator and denominator. For radicals (square root or Nth root), the radical sign will grow vertically to enclose the contents.
- **Integral templates** - Integral templates are provided for definite integrals (integrals with limits); indefinite integrals (no limits); single, double, and triple integrals; and contour, area, and volume integrals.
- **Summation templates** - Summation templates are provided which have no limits, underscript limit only, underscript and overscript limits, subscript limit only, and subscript and superscript limits.
- **Product and Set Theory templates** - Product and Set Theory templates include templates for product, coproduct, intersection, and union. Templates are provided which have no limits, underscript limit only, underscript and overscript limits, subscript limit only, and subscript and superscript limits.
- **Matrix templates** - Matrix templates are used to create 2x2, 3x3, up to 12x12 matrices. They can also be used to group sections of your equation into a table.
- **Underbar and Overbar templates** - Underbar templates and overbar templates are used to produce equations with single or double lines above or below a section of text.
- **Arrow templates** - Arrow templates are used to produce labeled arrows for your equations. They also provide a simple method to add an arrow accent to multiple characters.
- **Geometric Shape templates** - Geometric shapes include triangles, squares, and circles.

1. Position the cursor at the location in the equation where you want the template to appear.
2. Click the desired template on the template toolbar.
3. Select the appropriate template from the menu.
   One or more additional slots will appear in the equation. The cursor will be placed in the primary template slot. If part of the equation was highlighted, the highlighted text, symbols, and templates will be moved inside the newly created delimiter template.
4. Enter the appropriate contents for each slot.
5. Press the Tab key, use the arrow keys, or click the mouse button outside of the template to continue entering the equation.

Dynamic Content (Algorithms)

Through the use of built-in algorithmic functions, keywords, and variables, ExamView Test Generator allows you to create dynamic questions. Algorithms allow infinite customizing of a test question using mathematical definitions. For example, with a single click you can print multiple versions of the same test, with the software automatically calculating new values for every question and answer.

Through the use of mathematical, string, and special functions along with the ability to create custom functions, dynamic content can be created for any subject area.

This chapter covers the following topics:

Creating or Editing an Algorithm

There are no formatting options for constants, conditions, and user-defined functions, since only variables can be inserted into questions, narratives, or matching groups. If you have a value that is a constant or condition and you want to display it, you will need to create it as a variable.

> **TIP**
> In order to make your algorithms easy to understand or debug, you may want to include comments in your algorithm definitions. To add a comment, type the pound sign (#) followed by your comment in the Definition field.

1. Create a new question, narrative, or matching group.
2. Click **Edit** from the menu bar and select **Algorithm Definitions**.
   The *Edit Algorithm Definitions* window opens.
3. Click **New** create a variable, constant, condition, or user-defined function.

> **IMPORTANT**
> Once an algorithm is created as a particular type: variable, constant, condition, or user-defined function, you will be unable to change the type.

4. To add algorithms to an existing item, click **Edit** from the menu bar and select **Algorithm Definitions**, select the **algorithm name and definition**, and click **Edit**.

How to create or edit a new variable...

1. Enter a **variable name**.

> **NOTE**
> The variable name entered must be unique for the algorithm group and must not match any of the reserved keywords.

2 Enter a **variable definition**. Click next to the variable definition to display a list of currently defined variables, constants, and keywords.

> **TIP**
> Use the ***Algorithmic Syntax*** on page 93 rules to help you create the variable definition.

3 Select the **variable format**. If you choose a format type of number or scientific notation, you need to specify the number of decimal places you want displayed and if you want this to be a fixed number.

The format options are: general, number, comma separated number, scientific notation, coefficient, coefficient (1st), or metric. If the variable is a string type variable, the format used will be general.

The examples shown below illustrate how numbers are displayed with different format types:

Format Type	Number	Decimal Places	Fixed	Output
General	13831.3	N/A	N/A	13831.3
Number	13831.386	2	No	13831.39
Number	13831.386	5	No	13831.386
Number	13831.386	5	Yes	13831.38600
Number (#,###,###)	13831.386	2	No	13,831.39
Number (#,###,###)	142.1	4	No	142.1
Number (#,###,###)	13831.386	4	Yes	13,831.3860
Scientific Notation	123492883	3	No	1.235e+008
Scientific Notation	120000000	3	No	1.2e+008
Scientific Notation	120000000	3	Yes	1.200e+008
Coefficient	3	N/A	N/A	+ 3
Coefficient	3	N/A	N/A	3
Coefficient	3	N/A	N/A	+
Coefficient	1	N/A	N/A	
Coefficient (1st)	3	N/A	N/A	3
Coefficient (1st)	1	N/A	N/A	
Metric (## ###)	13831.386	2	No	13 831.39
Metric (## ###)	142.1	4	No	142.1
Metric (## ###)	1234.56	4	Yes	1234.5600
Metric (## ###)	399456	2	No	399 456

The coefficient format types are useful for coefficients in a polynomial.

EXAMPLE
If we want to have the coefficients in a polynomial such as $3x^2 + 2x - 4 = 0$ be represented as variables, we would use something like $v1x^2$ v2x v3 = 0, change the format for v1 to coefficient (1st), and change the format for v2 and v3 to coefficient. The result would be correctly formatted and spaced for positive and negative coefficients (not zero)

4 Optional. When a question is duplicated, ExamView Test Generator requires that at least one of the algorithms defined for the question is different for the new question. There are times where one or more variables need to be unique, while others don't matter. Use this setting to mark variables which are critical to be unique across questions.

5 Click **OK** to record your changes and close the *New Algorithm* window.

How to create or edit a new constant...

1 Enter a **constant name**.

NOTE
Names of constants must begin with an alphabetic character, and cannot be longer than 40 characters, and cannot contain characters other than alphabetic characters, numeric characters, and the underscore.

The name entered must be unique for the algorithm group and must not match any of the reserved keywords.

2 Enter a **definition**. Click next to the definition to display a list of currently defined constants and keywords.

NOTE
You cannot use variable names when defining a constant, but you can use pre-defined constants and keywords.

3 Click **OK** to record your changes and close the *New Algorithm* window.

NOTE
Constants are evaluated immediately when you click OK.

How to create or edit a new user-defined function...

1 Enter a **function name**.

NOTE
Names of functions must begin with an alphabetic character, cannot be longer than 40 characters, and cannot contain characters other than alphabetic characters, numeric characters, and the underscore. Function names must contain parentheses and a valid list of arguments.

The name entered must be unique for the algorithm group and must not match any of the reserved keywords.

2 Enter a **definition**. Click next to the definition to display a list of currently defined constants and keywords.

> **NOTE**
> You cannot use variable names when defining a user-defined function, but you can use pre-defined constants and keywords.

3 Click **OK** to record your changes and close the *New Algorithm* window.

How to create or edit a new condition...

1 Enter a **condition**. Conditions do not need a name. Click next to the condition to display a list of currently defined variables, constants, and keywords.

> **NOTE**
> Conditions always evaluate to TRUE or FALSE. Any numeric expression can be used for a condition. If it evaluates to non-zero, it is interpreted as TRUE. If it evaluates to zero, it is interpreted as FALSE.

2 Click **OK** to record your changes and close the *New Algorithm* window.

Algorithmic Syntax

A variable is a named object that can be modified during recalculation. Each variable has a unique name and a ”r;scope” or context where it is identified. In the ExamView Test Generator, the scope of a variable is either limited to a single question, a narrative and all questions linked to it, or to a matching group and all questions within that matching group.

All variables are one of the following types:

int	integer (positive and negative whole numbers and zero)
double	double-precision floating point (has fractional part)
string	characters or letters

A variable name must begin with an alphabetic character, cannot be longer than 40 characters, and cannot contain characters other than alphabetic characters, numeric characters, and the underscore.

An expression is a mathematical, logical, or string phrase that contains constants, variables, operators, and keywords. An expression is used to define a variable.

> **EXAMPLE**
> `y = x + 8`
>
> In this example, ”r;y” is a variable being defined, ”r;x” is a variable already defined, ”r;+” is an arithmetic operator to do addition, and ”r;8” is a numeric constant. You do not have to explicitly assign a type to any variable or constant. The program does that for you.

ExamView Test Generator uses the following arithmetic operators:

+ Addition (can also concatenate two string variables or constants)

- Subtraction
* Multiplication (use 3 * x instead of 3x)
/ Division
\ Integer division
% Modulus
^ Power (use x^2 to represent x to the 2nd power)
! Factorial

In addition to the arithmetic operators, ExamView Test Generator uses the following relational operators:

= Equals
< Less than
<= Less than or equal to
> Greater than
>= Greater than or equal to
<> Not equal to
& And (you can also use "and")
| Or (you can also use "or")

An expression that adds two strings together might look like this:

```
y = "Mrs. " + firstName + " " + lastName
```

In this case, ”r;Mrs. ”r; and the space between the first and last name are considered string constants. The variables firstName and lastName would have already been defined as string variables. When the expression has been evaluated, y will be a string variable.

ExamView Test Generator will not let you combine variables of different types when writing expressions, except where variables of a particular type are expected.

> **EXAMPLE**
> For example, you could not write an expression like:
>
> ```
> y = "Mrs. " + 8 * x
> ```
>
> The program would not know whether the string constant ”r;Mrs. ”r; should be treated as a numeric variable and added to the product of 8 times x, or whether the product of 8 * x should be treated as a string variable and concatenated to ”r;Mrs. ”r; to give the string result y.

The list of keywords shows what types of variables or constants can be used as arguments (input) to the various functions, as well as what type of variable gets created by the keyword or function (output).

ExamView Test Generator also lets you use parentheses to assign precedence to parts of your expressions when the program evaluates them. The following list will help you when determining the order in which an expression is evaluated:

( ) parentheses
! + - factorial, positive, negative

^	power
* / \ %	multiplication, division, integer division, modulus
+ -	addition, subtraction
< <= > >=	less than, less than or equals, greater than, greater than or equals
= <>	equals, not equals
&	and
|	or

Algorithm Definitions

This section covers the following topics:

Constants

ExamView Test Generator provides you with numerous pre-defined constants to use when defining variables, conditions, and user-defined functions.

e	[Constant] 2.71828..., used in problems involving growth or decay (or compound interest). Usually defined by the following equation: $$e = \lim_{x \to \infty} \left(1 + \frac{1}{n}\right)^n$$
false	[Constant] 0.
inf	[Constant] ∞. Can be used to represent positive or negative infinity (INF).
no	[Constant] 0.
pi	[Constant] 3.1415926.... By definition, PI is the ratio of the circumference of a circle to its diameter.
testversion	[pseudo constant] Represents the current test version ("A", "B", "C", etc.).
true	[Constant] 1.
yes	[Constant] 1.

Math Functions

ExamView Test Generator provides you with numerous pre-defined math functions to use when defining variables, conditions, and user-defined functions.

abs	`double abs(double x)` Computes the absolute value of the argument, x.
ceil	`double ceil(double x)` Rounds up. The function finds the smallest integer not less than the argument, x.

floor	`double floor(double x)` Rounds down. The function finds the largest integer not greater than the argument, x.
frac	`double frac(double x)` Returns the fractional part of the argument, x. The return value will always be greater than or equal to 0 and less than 1.
int	`int int(double x)` Returns the integer portion of the argument, x. If x is positive, it rounds down. If x is negative, it rounds up.
inv	`double inv(double x)` Returns the inverse of the argument, x. Actual function is 1 / x. Arguments to the function must not be equal to zero.
max	`double max(double x, double y)` Returns the larger of two values.
min	`double min(double x, double y)` Returns the smaller of two values.
rand	`int rand(int x)` Returns a pseudo-random number in the range 1 to the argument, x, inclusive.
sgn	`int sgn(double x)` If the argument, x, is less than zero, this function returns -1. If the argument, x, is greater than zero, this function returns 1. Otherwise it returns zero.
sqr	`double sqr(double x)` Computes the positive square root of the argument, x. The argument must be greater than or equal to zero.
sqrt	`double sqrt(double x)` Computes the positive square root of the argument, x. The argument must be greater than or equal to zero.

Exponential and Logarithmic Functions

ExamView Test Generator provides you with numerous pre-defined exponential and logarithmic functions to use when defining variables, conditions, and user-defined functions.

exp	`double exp(double x)` Calculates the exponential e to the x.
ln	`double ln(double x)` Calculates the natural log of the argument, x. Arguments to the function must be greater than zero.

log	`double log(double x)` Calculates the natural log of the argument, x. Arguments to the function must be greater than zero.
log10	`double log10(double x)` Calculates the base 10 logarithm of the argument, x. Arguments to the function must be greater than or equal to zero.
logb	`double logb(double x, double b)` Calculates the base b logarithm of the argument, x. Arguments to the function must be greater than zero. Actual function is: $$\frac{\log(x)}{\log(b)}$$
pow	`double pow(double x, double y)` Calculates x to the power of y.

Trigonometric Functions

ExamView Test Generator provides you with numerous pre-defined trigonometric functions to use when defining variables, conditions, and user-defined functions.

acos	`double acos(double x)` Computes the arc cosine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range 0 to pi inclusive.
acosh	`double acosh(double x)` Computes the hyperbolic arc cosine of the argument, x. Arguments to the function must be greater than 1.
acot	`double acot(double x)` Computes the arc cotangent of the argument, x.Arguments to the function must not be equal to zero. Values are returned in the range -pi/2 to pi/2 non-inclusive.
acoth	`double acoth(double x)` Computes the hyperbolic arc cotangent of the argument, x. Arguments to the function must be less than -1 or greater than 1.
acsc	`double acsc(double x)` Computes the arc cosecant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range -pi/2 to pi/2 non-inclusive.
acsch	`double acsch(double x)` Computes the hyperbolic arc cosecant of the argument, x. Arguments to the function must not be equal to zero.
arccos	`double arccos(double x)` Computes the arc cosine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range 0 to pi inclusive.

arccosh	`double arccosh(double x)` Computes the hyperbolic arc cosine of the argument, x. Arguments to the function must be greater than 1.
arccot	`double arccot(double x)` Computes the arc cotangent of the argument, x. Arguments to the function must not be equal to zero. Values are returned in the range -pi/2 to pi/2 non-inclusive.
arccoth	`double arccoth(double x)` Computes the hyperbolic arc cotangent of the argument, x. Arguments to the function must be less than -1 or greater than 1.
arccsc	`double arccsc(double x)` Computes the arc cosecant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range -pi/2 to pi/2 non-inclusive.
arccsch	`double arccsch(double x)` Computes the hyperbolic arc cosecant of the argument, x. Arguments to the function must not be equal to zero.
arcsec	`double arcsec(double x)` Computes the arc secant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range 0 to pi inclusive.
arcsech	`double arcsech(double x)` Computes the hyperbolic arc secant of the argument, x. Arguments to the function must be greater than 0 and less than or equal to 1.
arcsin	`double arcsin(double x)` Computes the arc sine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range -pi/2 to pi/2 inclusive.
arcsinh	`double arcsinh(double x)` Computes the hyperbolic arc sine of the argument, x.
	`double arctan(double x)` Computes the arc tangent of the argument, x. Values are returned in the range -pi/2 to pi/2 non-inclusive.
arctan2	`double arctan2(double y, double x)` Computes the arc tangent of y / x. This function produces correct results even when the resulting angle is near -pi/2 or pi/2. Values are returned in the range -pi/2 to pi/2 non-inclusive.
arctanh	`double arctanh(double x)` Computes the hyperbolic arc tangent of the argument, x. Arguments to the function must be in the range -1 to 1 non-inclusive.

asec	`double asec(double x)` Computes the arc secant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range 0 to pi inclusive.
asech	`double asech(double x)` Computes the hyperbolic arc secant of the argument, x. Arguments to the function must be greater than 0 and less than or equal to 1.
asin	`double asin(double x)` Computes the arc sine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range -pi/2 to pi/2 inclusive.
asinh	`double asinh(double x)` Computes the hyperbolic arc sine of the argument, x.
atan	`double atan(double x)` Computes the arc tangent of the argument, x. Values are returned in the range -pi/2 to pi/2 inclusive.
atan2	`double atan2(double y, double x)` Computes the arc tangent of y / x. It produces correct results even when the resulting angle is near -pi/2 or pi/2. Values are returned in the range -pi/2 to pi/2 non-inclusive.
atanh	`double atanh(double x)` Computes the hyperbolic arc tangent of the argument, x. Arguments to the function must be in the range -1 to 1 non-inclusive.
cos	`double cos(double x)` Computes the cosine of the argument, x. The angle is specified in radians. Values are returned in the range -1 to 1 inclusive.
cosh	`double cosh(double x)` Computes the hyperbolic cosine of the argument, x. The actual function is: $\frac{e^{x}+e^{-x}}{2}$
cot	`double cot(double x)` Computes the cotangent of the argument, x. The angle is specified in radians. Arguments to the function must not be equal to zero.
coth	`double coth(double x)` Computes the hyperbolic cotangent of the argument, x. This evaluates to cosh(x) / sinh(x). Arguments to the function must not be equal to zero.
csc	`double csc(double x)` Computes the cosecant of the argument, x. The angle is specified in radians. Arguments to the function must not be equal to zero.

csch	`double csch(double x)` Computes the hyperbolic cosecant of the argument, x. This evaluates to 1 / sinh(x). Arguments to the function must not be equal to zero.
deg	`double deg(double x)` Converts an argument, x, in radians to degrees.
rad	`double rad(double x)` Converts an argument, x, in degrees to radians.
sec	`double sec(double x)` Computes the secant of the argument, x. The angle is specified in radians.
sech	`double sech(double x)` Computes the hyperbolic secant of the argument, x. This evaluates to 1 / cosh(x).
sin	`double sin(double x)` Computes the sine of the argument, x. The angle is specified in radians. Values are returned in the range -1 to 1 inclusive.
sinh	`double sinh(double x)` Computes the hyperbolic sine of the argument, x.
tan	`double tan(double x)` Computes the tangent of the argument, x. The angle is specified in radians.
tanh	`double tanh(double x)` Computes the hyperbolic tangent of the argument, x. This evaluates to sinh(x) / cosh(x).

String Functions

ExamView Test Generator provides you with numerous pre-defined string functions to use when defining variables, conditions, and user-defined functions.

asc	`int asc(string x)` Computes the ascii value of the first character in the string. If the string is empty, it returns 0.
chr	`string chr(int x)` Returns a string character with the ASCII value of the argument, x. If x is less than 32 or greater than 255, the function will return a question mark. You should use this function to generate characters found only in the Symbol font. Once the variable is inserted into a question or narrative, you need to highlight the variable and change it to Symbol font for it to display properly.
instr	`int instr(string x, string y)` Searches in the string, x, for the sub-string, y. If it finds it, the function will return the position in the string, x, where the first occurrence of y was found (between 1 and the length of string, x). If the substring is not found, the function returns FALSE (0).

lcase	`string lcase(string x)`
	Converts the string argument, x, to lower case.
	EXAMPLE
	`lcase("ExamView")` will return `"examview"`

left	`string left(string x, int y)`
	Returns the first y characters of the string argument, x.
	EXAMPLE
	`left("ExamView", 3) will return "Exa"`

len	`int len(string x)` Returns the number of characters in the string argument, x, not counting the null-terminating character.

ltrim	`string ltrim(string x)`
	Trims spaces from the left side of the string argument, x.
	EXAMPLE
	`ltrim(" ExamView ")` will return `"ExamView "`

mid	`string mid(string x, int start, int y)`
	Returns y characters starting at the start position in the string argument, x.
	EXAMPLE
	`mid("ExamView", 2, 4)` will return `"xamV"`

right	`string right(string x, int y)`
	Returns the last y characters of the string argument, x.
	EXAMPLE
	`right("ExamView", 3)` will return `"iew"`

rtrim	`string rtrim(string x)`
	Trims spaces from the right side of the string argument, x.
	EXAMPLE
	`rtrim(" ExamView ")` will return `" ExamView"`

sentence

`string sentence(string x)`

Changes string argument, x, into a sentence that can be subdivided using the choose function. This allows us to create a sentence that can word wrap.

EXAMPLE
`sentence("This is a long sentence that might need to wrap.")`

`choose(3, mySentence)` to access the 3rd tenth of the variable `mySentence`.

str

`string str(double x)`

Returns a string representation of the argument, x.

EXAMPLE
`str(18)` will return `"18"`

strdup

`string strdup(string x, int numTimes)`

Returns a string by combining the string argument, x, a variable number of times.

EXAMPLE
`strdup("(2)", 5)` will return `"(2)(2)(2)(2)(2)"`

trim

`string trim(string x)`

Trims spaces from both the left and the right side of the string argument, x.

EXAMPLE
`trim(" ExamView ")` will return `"ExamView"`

ucase

`string ucase(string x)`

Converts the string argument, x, to upper case.

EXAMPLE
`ucase("ExamView")` will return `"EXAMVIEW"`

val

`double val(string x)`

Returns a numeric representation of the string argument, x.

EXAMPLE
`val("18")` will return 18

`val("-4")` will return -4

Statistical Functions

ExamView Test Generator provides you with numerous pre-defined statistical functions to use when defining variables, conditions, and user-defined functions.

comb	`int comb(int m, int n)` Returns the number of possible combinations. If we have a group of m objects, how many ways can they be grouped as n objects when position does not matter. The actual function is: $$\mathbf{comb}\left(m,n\right)=\frac{m!}{(n!)(m-n)!}$$

makelist	`list makelist(int numValues, double lowerExtreme,`
	`double lowerQuartile, double median,`
	`double upperQuartile, double upperExtreme,`
	`Boolean sortData)`
	Use this function to create a "list" container to hold a group of data with numValues data, and the range, median, and interquartile ranges assigned. Pass TRUE if you want the data elements to be arranged in ascending order. Pass -1 for either extreme, either quartile, or the median if you do not require them to be specific values.
	EXAMPLE
	`makelist(3, 5, -1, 8, -1, 9, TRUE)` will return `"5, 8, 9"`
	Both quartile values must be supplied to the makelist() function. If either one is not, they are both ignored.

mean	`double mean(list data)` Returns the arithmetic mean (or average) of the data in the list.
median	`double median(list data)` Returns the middle value of the data in the list if the number of elements in the list is odd, or the average of the two middle terms if the number of elements is even.
mode	`double mode(list data)` Returns the most common value for the data in the list. If the data is multimodal, this function returns zero.
perm	`int perm(int m, int n)` Returns the number of possible permutations. Given that position is important, if one has m objects, how many unique ways can they be placed in n positions. The actual function is: $$perm\left(m,n\right)=\frac{m!}{(m-n)!}$$

quartile	`double quartile(list data, int whichQuartile)`
	Returns one of the divisions of observations of the data in the list.
	EXAMPLE
	`theList = list(30, 25, 19, 26, 31, 29, 23)`
	`quartile(theList, 0)` will return "19", the lower extreme
	quartile(theList, 1) will return "23", the lower quartile
	quartile(theList, 2) will return "27", the median
	quartile(theList, 3) will return "30", the upper quartile
	quartile(theList, 4) will return "31", the upper extreme

sdev	`double sdev(list data)` Returns the standard deviation of the data values in the list. Data values are assumed to be the entire population (not a sample). Result is the square root of the population variance.

sort	`list sort(Boolean sortAscending, double arg1, double arg2, ...)`
	`- or -`
	`list sort(Boolean sortAscending, list dataList)`
	This function will sort the list of arguments. All of the arguments must be numeric (or the list must have been composed of only numeric data). Function will return a list that can be used as an argument for choose( ).
	`sort(TRUE, 1, 14, 3.2, 6, 9) will return 1, 3.2, 6, 9, 14`
	`- or -`
	`listOfData = list(12, -3, 5)`
	`sort(FALSE, listOfData)` will return `"12, 5, -3"`

sum	`double sum(list data)` Returns the sum of the data values in the list.
variance	`double variance(list data)` Returns the variance of the data values in the list. Data values are assumed to be the entire population (not a sample). Actual formula used is: $\mathbf{variance}\left(x\right) = \frac{1}{N}\sum_{i=1}^{n}(X_i - \mu)^2$

Logical Operators

ExamView Test Generator provides you with numerous pre-defined logical operators to use when defining variables, conditions, and user-defined functions.

AND	`expression AND expression` Returns TRUE (1) only if both expressions evaluate to non-zero, otherwise returns FALSE (0). If the first expression evaluates to FALSE, the second expression is not evaluated.
EQV	`expression EQV expression` Returns TRUE (1) if both expressions evaluate to non-zero or if both expressions evaluate to zero, otherwise returns FALSE (0).
IMP	`expression IMP expression` Returns TRUE (1) if the first expression evaluates to non-zero and the second expression evaluates to zero, otherwise returns FALSE (0).
MOD	`expression MOD expression` Divides the first expression by the second expression and returns the remainder. If the second expression is equal to zero, the function will return zero. Integer division may return a negative value to satisfy the identity: (-A)/B = -(A/B) = A/(-B) **EXAMPLE** -34 MOD 6 will return -4
NOT	`NOT expression` If expression evaluates to non-zero, this will return FALSE (0), otherwise it will return TRUE (1).
OR	`expression OR expression` Returns TRUE (1) if either expression evaluates to non-zero, otherwise returns FALSE (0). If the first expression evaluates to TRUE, the second expression is not evaluated.
XOR	`expression XOR expression` Returns the bitwise exclusive-OR or the two expressions.

Fraction Functions

ExamView Test Generator provides you with numerous fraction functions to use when defining variables, conditions, and user-defined functions.

fracs*

`string fracs(double numer, double denom)`

After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "numer/denom". When displayed, this function will draw a stacked fraction if necessary. If denom is 0, the function will return "0".

EXAMPLE

`fracs(22, 6)` will return $\frac{11}{3}$

`fracs(22, 11)` will return 2

mixfracs*

`string mixfracs(double numer, double denom)`

After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "whole/numer/denom". When displayed, this function will draw a stacked fraction if necessary. If denom is 0, the function will return "0".

EXAMPLE

`mixfracs(22, 6)` will return $3\frac{2}{3}$

`mixfracs(2, 6)` will return $\frac{1}{3}$

rfracs*

`string rfracs(double numer, double denom)`

Reduces the fraction numer / denom. When displayed, this function will always draw a ratio in stacked fraction form. If denom is 0, the function will return "0".

EXAMPLE

`rfracs(22, 6)` will return $\frac{11}{3}$

`rfracs(22, 11)` will return $\frac{2}{1}$

sfracs*

`string sfracs(double numer, double denom)`

After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "numer/denom". When displayed, this function will draw a small stacked fraction if necessary. If denom is 0, the function will return "0".

EXAMPLE

`sfracs(22, 6)` will return $\frac{11}{3}$

`sfracs(22, 11)` will return 2

`string smixfracs(double numer, double denom)`

After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "whole/numer/denom". When displayed, this function will draw a small stacked fraction if necessary. If denom is 0, the function will return "0".

smixfracs*

EXAMPLE

`smixfracs(22, 6)` will return $3\frac{2}{3}$

`smixfracs(2, 6)` will return $\frac{1}{3}$

`string srfracs(double numer, double denom)`

Reduces the fraction numer / denom. When displayed, this function will always draw a small ratio in stacked fraction form. If denom is 0, the function will return "0".

srfracs*

EXAMPLE

`srfracs(22, 6)` will return $\frac{11}{3}$

`srfracs(22, 11)` will return $\frac{2}{1}$

* Keywords marked with an asterisk are for display only and cannot be used as parts of an expression.

Special Functions

ExamView Test Generator provides you with numerous special functions to use when defining variables, conditions, and user-defined functions.

choose

`expression choose(int which, expression arg1, expression arg2, ...)`

`- or -`

`expression choose(int which, list dataList)`

This function will select the argument at the which location in the list of arguments. The expression will be evaluated and returned. All of the arguments must be of the same type (string or numeric). If which is greater than the number of arguments, the function will use the remainder part of which to choose an argument.

EXAMPLE

`which = rand(5)`

`choose(which, 1, 14, 3.2, 6, 9)` will return `3.2` when `which = 3`

`- or -`

`which = rand(5)`

`listOfData = list(1, 14, 3.2, 6, 9)`

`choose(which, listOfData)` will return `9` when `which = 5`

---

decs*

`string decs(double x)`

This function returns a string representation of the decimal number. If the function determines that the number, x, has an infinitely repeating decimal part, the repeating part will be displayed with an overbar.

EXAMPLE

`decs(18.333333333333)` will return $18.\overline{3}$

`decs(0.0142857142857)` will return $0.0\overline{142857}$

`decs(4.25)` will return 4.25

---

format

`string format(string format, double x)`

Writes formatted output to a string. For a complete description of formatting specifiers, look in any C programming manual.

EXAMPLE

`format("$%1.2f", 13.4)` will return "$13.40"

`format("%d feet", 17)` will return "17 feet"

---

gcf

`int gcf(int x, int y)`

Returns the greatest common factor of the arguments, x and y.

---

if

`expression if (int condition, expression arg1, expression arg2)`

Use to implement a conditional expression. If condition evaluates to non-zero, arg1 will be returned, else arg2 will be returned. Both of the arguments must be of the same type (string or numeric).

isalpha	`int isalpha(string x)` If the first character of the string argument, x, is in the range "A" to "Z" or "a" to "z", the function will return TRUE (1), otherwise it will return FALSE (0).
isdigit	`int isdigit(string x)` If the first character of the string argument, x, is in the range "0" to "9", the function will return TRUE (1), otherwise it will return FALSE (0).
isprime	`int isprime(int x)` Evaluates the number to see if it is prime. If the number is prime, the function will return TRUE (1), otherwise it returns FALSE (0). NOTE: Values must be in the range 2 to 1,000,000.
isrelprime	`int isrelprime(int x, int y)` Evaluates the two numbers to see if they are relatively prime. If the greatest common factor of x and y is 1, the function will return TRUE (1), otherwise it returns FALSE (0).

isunique	`int isunique(expression arg1, expression arg2, ...)`
	Compares the arguments to see if there are any duplicates. If there are duplicate arguments, the function will return FALSE (0), otherwise it returns TRUE (1). All of the arguments must be of the same type (string or numeric). This function is useful as a "condition" in evaluating multiple choice answer choices.
	EXAMPLE
	`(condition) isunique(answerA, answerB, answerC, answerD)`

lcd	`int lcd(int x, int y)` Returns the least common denominator of the arguments, x and y.

list	`list(expression arg1, expression arg2, ...)`
	Use this function as a container to hold a group of similar expressions. The expressions must all be of the same type--either numeric or string. If you create a list of strings, you must make sure that no string element contains a comma, since the comma is used to delimit the list. A variable defined as a "list" can be used as an argument for the "choose" function.
	EXAMPLE
	`fruitList = list("apple", "pear", "peach", "tangerine")`
	`whichFruit = rand(4)`
	`fruit = choose(whichFruit, fruitList)`
	
	`weightList = list(110, 142, 153, 180, 212)`
	`whichWeight = rand(5)`
	`weight = choose(whichWeight, weightList)`

prime

`int prime(int x, int y)`

Returns a pseudo-random prime number in the range x to y, inclusive. NOTE: Values must be in the range 2 to 1,000.

range

`double range(double x, double y, double increment {optional})`

Returns a pseudo-random number in the range x to y, inclusive. If the optional argument, increment, is included, the function will only select values in the given range that are offset from the lower limit by increment.

> **NOTE**
> If increment is in the form .1, .01, .001, etc., then the result will always have the same number of decimal places as the increment. Also, if x is less than zero, and y is greater than zero, and an increment is provided, then the value 0 will never be returned by the function.

round

`double round(double x, int precision)`

Rounds the argument, x, to have precision decimal places.

> **NOTE**
> If precision is greater than or equal to 10, this function rounds the argument, x, to the nearest precision.

> **EXAMPLE**
> `round(3.14159265, 4)` will return 3.1416
>
> `round(1492.14, 10)` will return 1490
>
> `round(1492.14, 100)` will return 1500

sciens*

`string sciens(double x)`

Function returns a string representation of the argument, x, in scientific notation.

> **NOTE**
> You must be sure to also change the format to Scientific Notation and select the number of decimal places when formatting the variable.

> **EXAMPLE**
> `sciens(143948.123)` will return 1.44×10^5 when using 2 decimal places.

sgns

`string sgns(double x)`

If the argument, x, is less than zero, this function returns "-". Otherwise it returns "+".

sigfig

`string sigfig(double x, int numSigFigs, Boolean forceNumSigFigs)`

Creates a string version of the argument, x, that has numSigFigs significant digits. If forceNumSigFigs is TRUE, then the string returned will have exactly numSigFigs significant digits (even if the function has to randomly create some digits). If forceNumSigFigs is FALSE, then the function will return a string that has numSigFigs significant digits or less.

EXAMPLE

`sigfig(12362, 3, FALSE)` will return 12400

`sigfig(2.14, 5, TRUE)` will return 2.1400

`sigfig(1400, 4, TRUE)` might return 1427

---

sqrs*

`string sqrs(double x)`

After reducing the argument, x, to a multiple of a whole number and a radical, it returns a string representation in the form whole (square root) radical. When displayed, this function will draw a radical if necessary.

EXAMPLE

`sqrs(18)` will return $3\sqrt{2}$

`sqrs(16)` will return 4

`sqrs(-8)` will return $2i\sqrt{2}$

`sqrs(3.14159)` will return $\sqrt{3.14159}$

---

symbol*

`string symbol(string x)`

Converts the string argument, x, to the appropriate Symbol character.

NOTE

Once the variable is inserted into a question or narrative, you need to highlight the variable and change it to Symbol font for it to display properly.

The following list shows valid arguments to this function. For all other Symbol characters, use the chr function.

`symbol ("<=")` will return "≤"
`symbol (">=")` will return "≥"
`symbol ("<>")` will return "≠"
`symbol ("x")` will return "×"
`symbol (".")` will return "▪"
`symbol ("/")` will return "⁄"

unsort	`list unsort(list dataList)`
	This function will "unsort" or scramble the list of arguments. The list passed in as an argument must have been composed of only numeric data. Function will return a list that can be used as an argument for choose( )
	`listofData = list (1, 2, 3, 4)`
	`unsort(ListofData) might return "2, 4, 3, 1"`

* Keywords marked with an asterisk are for display only and cannot be used as parts of an expression.

Keywords

ExamView Test Generator provides you with numerous pre-defined constants to use when defining variables, conditions, and user-defined functions.

Syntax	Description
`double abs(double x)`	Computes the absolute value of the argument, x.
`double acos(double x)`	Computes the arc cosine of the argument, x. Arguments to the function must be in the range -1 to 1.Values are returned in the range 0 to pi inclusive.
`double acosh(double x)`	Computes the hyperbolic arc cosine of the argument, x. Arguments to the function must be greater than 1.
`double acot(double x)`	Computes the arc cotangent of the argument, x. Arguments to the function must not be equal to zero. Values are returned in the range -pi/2 to pi/2 non-inclusive.s are returned in the range -pi/2 to pi/2 non-inclusive.
`double acoth(double x)`	Computes the hyperbolic arc cotangent of the argument, x. Arguments to the function must be less than -1 or greater than 1.
`double acsc(double x)`	Computes the arc cosecant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double acsch(double x)`	Computes the hyperbolic arc cosecant of the argument, x. Arguments to the function must not be equal to zero.
`expression AND expression`	Returns TRUE (1) only if both expressions evaluate to non-zero, otherwise returns FALSE (0). If the first expression evaluates to FALSE, the second expression is not evaluated.
`double arccos(double x)`	Computes the arc cosine of the argument, x. Arguments to the function must be in the range -1 to 1.Values are returned in the range 0 to pi inclusive.
`double arccosh(double x)`	Computes the hyperbolic arc cosine of the argument, x. Arguments to the function must be greater than 1.
`double arccot(double x)`	Computes the arc cotangent of the argument, x. Arguments to the function must not be equal to zero. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double arccoth(double x)`	Computes the hyperbolic arc cotangent of the argument, x. Arguments to the function must be less than -1 or greater than 1.
`double arccsc(double x)`	Computes the arc cosecant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double arccsch(double x)`	Computes the hyperbolic arc cosecant of the argument, x. Arguments to the function must not be equal to zero.

Syntax	Description
`double arcsec(double x)`	Computes the arc secant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range 0 to pi inclusive.
`double arcsech(double x)`	Computes the hyperbolic arc secant of the argument, x. Arguments to the function must be greater than 0 and less than or equal to 1.
`double arcsin(double x)`	Computes the arc sine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range -pi/2 to pi/2 inclusive.
`double arcsinh(double x)`	Computes the hyperbolic arc sine of the argument, x.
`double arctan(double x)`	Computes the arc tangent of the argument, x. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double arctan2(double y, double x)`	Computes the arc tangent of y / x. This function produces correct results even when the resulting angle is near -pi/2 or pi/2. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double arctanh(double x)`	Computes the hyperbolic arc tangent of the argument, x. Arguments to the function must be in the range -1 to 1 non-inclusive.
`int asc(string x)`	Computes the ascii value of the first character in the string. If the string is empty, it returns 0.
`double asec(double x)`	Computes the arc secant of the argument, x. Arguments to the function must be less than or equal to -1 or greater than or equal to 1. Values are returned in the range 0 to pi inclusive.
`double asech(double x)`	Computes the hyperbolic arc secant of the argument, x. Arguments to the function must be greater than 0 and less than or equal to 1.
`double asin(double x)`	Computes the arc sine of the argument, x. Arguments to the function must be in the range -1 to 1. Values are returned in the range -pi/2 to pi/2 inclusive.
`double asinh(double x)`	Computes the hyperbolic arc sine of the argument, x.
`double atan(double x)`	Computes the arc tangent of the argument, x. Values are returned in the range -pi/2 to pi/2 inclusive.
`double atan2(double y, double x)`	Computes the arc tangent of y / x. It produces correct results even when the resulting angle is near -pi/2 or pi/2. Values are returned in the range -pi/2 to pi/2 non-inclusive.
`double atanh(double x)`	Computes the hyperbolic arc tangent of the argument, x. Arguments to the function must be in the range -1 to 1 non-inclusive.
`double ceil(double x)`	Rounds up. The function finds the smallest integer not less than the argument, x.

Syntax	Description

`expression choose(int which, expression arg1, expression arg2, ...)`
- or -
`expression choose(int which, list dataList)`
	This function will select the argument at the which location in the list of arguments. The expression will be evaluated and returned. All of the arguments must be of the same type (string or numeric). If which is greater than the number of arguments, the function will use the remainder part of which to choose an argument.
	
	EXAMPLE
	`which = rand(5)`
	`choose(which, 1, 14, 3.2, 6, 9)` will return `3.2` when `which = 3`
	- or -
	`which = rand(5)`
	`listOfData = list(1, 14, 3.2, 6, 9)`
	`choose(which, listOfData)` will return `9` when `which = 5`

`string chr(int x)`	Description Returns a string character with the ASCII value of the argument, x. If x is less than 32 or greater than 255, the function will return a question mark. **NOTE** You should use this function to generate characters found only in the Symbol font. Once the variable is inserted into a question or narrative, you need to highlight the variable and change it to Symbol font for it to display properly.
`int comb(int m, int n)`	Returns the number of possible combinations. If we have a group of m objects, how many ways can they be grouped as n objects when position does not matter. The actual function is: $\mathbf{comb}\left(m,n\right) = \frac{m!}{(n!)(m-n)!}$
`double cos(double x)`	Computes the cosine of the argument, x. The angle is specified in radians. Values are returned in the range -1 to 1 inclusive.

Syntax	Description
`double cosh(double x)`	Computes the hyperbolic cosine of the argument, x. The actual function is: $\frac{e^x+e^{-x}}{2}$
`double cot(double x)`	Computes the cotangent of the argument, x. The angle is specified in radians. Arguments to the function must not be equal to zero.
`double coth(double x)`	Computes the hyperbolic cotangent of the argument, x. This evaluates to cosh(x) / sinh(x). Arguments to the function must not be equal to zero.
`double csc(double x)`	Computes the cosecant of the argument, x. The angle is specified in radians.Arguments to the function must not be equal to zero.
`double csch(double x)`	Computes the hyperbolic cosecant of the argument, x. This evaluates to 1 / sinh(x). Arguments to the function must not be equal to zero.
`string decs(double x)`	This function returns a string representation of the decimal number. If the function determines that the number, x, has an infinitely repeating decimal part, the repeating part will be displayed with an overbar. **EXAMPLE** `decs(18.333333333333)` will return $18.\overline{3}$ `decs(0.0142857142857)` will return $0.0\overline{142857}$ `decs(4.25)` will return 4.25
`double deg(double x)`	Converts an argument, x, in radians to degrees.
`e`	[Constant] 2.71828..., used in problems involving growth or decay (or compound interest). Usually defined by the following equation: $e = \lim_{x\to\infty}\left(1+\frac{1}{n}\right)^n$
`expression EQV expression`	Returns TRUE (1) if both expressions evaluate to non-zero or if both expressions evaluate to zero, otherwise returns FALSE (0).
`double exp(double x)`	Calculates the exponential e to the x.
`FALSE`	[Constant] 0.
`double floor(double x)`	Rounds down. The function finds the largest integer not greater than the argument, x.

Syntax	Description
`string format(string format, double x)`	Writes formatted output to a string. For a complete description of formatting specifiers, look in any C programming manual. **EXAMPLE** `format("$%1.2f", 13.4)` will return "$13.40" `format("%d feet", 17)` will return "17 feet"
`double frac(double x)`	Returns the fractional part of the argument, x. The return value will always be greater than or equal to 0 and less than 1.
`string fracs(double numer, double denom)`	After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "numer/denom". When displayed, this function will draw a stacked fraction if necessary. If denom is 0, the function will return "0". **EXAMPLE** `fracs(22, 6)` will return $\frac{11}{3}$ `fracs(22, 11)` will return 2
`int gcf(int x, int y)`	Returns the greatest common factor of the arguments, x and y.
`expression if (int condition, expression arg1, expression arg2)`	Use to implement a conditional expression. If *condition* evaluates to non-zero, *arg1* will be returned, else *arg2* will be returned. Both of the arguments must be of the same type (string or numeric).
`expression IMP expression`	Returns TRUE (1) if the first expression evaluates to non-zero and the second expression evaluates to zero, otherwise returns FALSE (0).
`INF`	[Constant] ∞. Can be used to represent positive or negative infinity (INF).
`int instr(string x, string y)`	Searches in the string, x, for the sub-string, y. If it finds it, the function will return the position in the string, x, where the first occurrence of y was found (between 1 and the length of string, x). If the substring is not found, the function returns FALSE (0).
`int int(double x)`	Returns the integer portion of the argument, x. If x is positive, it rounds down. If x is negative, it rounds up.
`double inv(double x)`	Returns the inverse of the argument, x. Actual function is 1 / x. Arguments to the function must not be equal to zero.
`int isalpha(string x)`	If the first character of the string argument, x, is in the range "A" to "Z" or "a" to "z", the function will return TRUE (1), otherwise it will return FALSE (0).

Syntax	Description
`int isdigit(string x)`	If the first character of the string argument, x, is in the range "0" to "9", the function will return TRUE (1), otherwise it will return FALSE (0).
`int isprime(int x)`	Evaluates the number to see if it is prime. If the number is prime, the function will return TRUE (1), otherwise it returns FALSE (0). **NOTE** Values must be in the range 2 to 1,000,000.
`int isrelprime(int x, int y)`	Evaluates the two numbers to see if they are relatively prime. If the greatest common factor of x and y is 1, the function will return TRUE (1), otherwise it returns FALSE (0).
`int isunique(expression` *`arg1`*`, expression` *`arg2`*`, ...)`	Compares the arguments to see if there are any duplicates. If there are duplicate arguments, the function will return FALSE (0), otherwise it returns TRUE (1). All of the arguments must be of the same type (string or numeric). This function is useful as a "condition" in evaluating multiple choice answer choices. **EXAMPLE** `(condition) isunique(answerA, answerB, answerC, answerD)`
`string lcase(string x)`	Converts the string argument, x, to lower case. **EXAMPLE** `lcase("ExamView")` will return `"examview"`
`int lcd(int x, int y)`	Returns the least common denominator of the arguments, x and y.
`string left(string x, int y)`	Returns the first y characters of the string argument, x. **EXAMPLE** `left("ExamView", 3) will return "Exa"`
`int len(string x)`	Returns the number of characters in the string argument, x, not counting the null-terminating character.

Syntax	Description

`list(expression arg1, expression arg2, ...)`	Use this function as a container to hold a group of similar expressions. The expressions must all be of the same type--either numeric or string. If you create a list of strings, you must make sure that no string element contains a comma, since the comma is used to delimit the list. A variable defined as a "list" can be used as an argument for the "choose" function.
	
	EXAMPLE
	`fruitList = list("apple", "pear", "peach", "tangerine")`
	`whichFruit = rand(4)`
	`fruit = choose(whichFruit, fruitList)`
	
	`weightList = list(110, 142, 153, 180, 212)`
	`whichWeight = rand(5)`
	`weight = choose(whichWeight, weightList)`

`double ln(double x)`	Calculates the natural log of the argument, x. Arguments to the function must be greater than zero.
`double log(double x)`	Calculates the natural log of the argument, x. Arguments to the function must be greater than zero.
`double log10(double x)`	Calculates the base 10 logarithm of the argument, x. Arguments to the function must be greater than or equal to zero.
`double logb(double x, double b)`	Calculates the base b logarithm of the argument, x. Arguments to the function must be greater than zero. Actual function is: $\frac{\log(x)}{\log(b)}$
`string ltrim(string x)`	Trims spaces from the left side of the string argument, x. **EXAMPLE** `ltrim(" ExamView ")` will return `"ExamView "`

Syntax	Description
`list makelist(int numValues, double lowerExtreme, double lowerQuartile, double median, double upperQuartile, double upperExtreme, Boolean sortData)`	Use this function to create a "list" container to hold a group of data with numValues data, and the range, median, and interquartile ranges assigned. Pass TRUE if you want the data elements to be arranged in ascending order. Pass -1 for either extreme, either quartile, or the median if you do not require them to be specific values. **EXAMPLE** `makelist(3, 5, -1, 8, -1, 9, TRUE)` will return `"5, 8, 9"` Both quartile values must be supplied to the makelist() function. If either one is not, they are both ignored.
`double max(double x, double y)`	Returns the larger of two values.
`double mean(list data)`	Returns the arithmetic mean (or average) of the data in the list.
`double median(list data)`	Returns the middle value of the data in the list if the number of elements in the list is odd, or the average of the two middle terms if the number of elements is even.
`string mid(string x, int start, int y)`	Returns y characters starting at the start position in the string argument, x. **EXAMPLE** `mid("ExamView", 2, 4)` will return `"xamV"`
`double min(double x, double y)`	Returns the smaller of two values.
`string mixfracs(double numer, double denom)`	After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "whole/numer/denom". When displayed, this function will draw a stacked fraction if necessary. If denom is 0, the function will return "0". **EXAMPLE** `mixfracs(22, 6)` will return $3\frac{2}{3}$ `mixfracs(2, 6)` will return $\frac{1}{3}$

Syntax	Description

`expression MOD expression`	Divides the first expression by the second expression and returns the remainder. If the second expression is equal to zero, the function will return zero. Integer division may return a negative value to satisfy the identity:
	`(-A)/B = -(A/B) = A/(-B)`
	EXAMPLE
	`-34 MOD 6` will return `-4`

`double mode(list data)`	Returns the most common value for the data in the list. If the data is multimodal, this function returns zero.
`NO`	[Constant] 0.
`NOT expression`	If expression evaluates to non-zero, this will return FALSE (0), otherwise it will return TRUE (1).
`expression OR expression`	Returns TRUE (1) if either expression evaluates to non-zero, otherwise returns FALSE (0). If the first expression evaluates to TRUE, the second expression is not evaluated.
`int perm(int m, int n)`	Returns the number of possible permutations. Given that position is important, if one has m objects, how many unique ways can they be placed in n positions. The actual function is: $perm\left(m,n\right) = \frac{m!}{(m-n)!}$
`PI`	[Constant] 3.1415926.... By definition, PI is the ratio of the circumference of a circle to its diameter.
`double pow(double x, double y)`	Calculates x to the power of y.
`int prime(int x, int y)`	Returns a pseudo-random prime number in the range x to y, inclusive. **NOTE** Values must be in the range 2 to 1,000.

Syntax	Description
`double quartile(list data, int whichQuartile)`	Returns one of the divisions of observations of the data in the list. **EXAMPLE** `theList = list(30, 25, 19, 26, 31, 29, 23)` `quartile(theList, 0)` will return "19", the lower extreme *quartile(theList, 1)* will return "23", the lower quartile *quartile(theList, 2)* will return "27", the median *quartile(theList, 3)* will return "30", the upper quartile *quartile(theList, 4)* will return "31", the upper extreme
`double rad(double x)`	Converts an argument, x, in degrees to radians.
`int rand(int x)`	Returns a pseudo-random number in the range 1 to the argument, x, inclusive.
`double range(double x, double y, double increment {optional})`	Returns a pseudo-random number in the range x to y, inclusive. If the optional argument, increment, is included, the function will only select values in the given range that are offset from the lower limit by increment. **NOTE** If increment is in the form .1, .01, .001, etc., then the result will always have the same number of decimal places as the increment. Also, if x is less than zero, and y is greater than zero, and an increment is provided, then the value 0 will never be returned by the function.
`string rfracs(double numer, double denom)`	Reduces the fraction numer / denom. When displayed, this function will always draw a ratio in stacked fraction form. If denom is 0, the function will return "0". **EXAMPLE** `rfracs(22, 6)` will return $\frac{11}{3}$ `rfracs(22, 11)` will return $\frac{2}{1}$

Syntax	Description
`string right(string x, int y)`	Returns the last y characters of the string argument, x. **EXAMPLE** `right("ExamView", 3)` will return `"iew"`
`double round(double x, int precision)`	Rounds the argument, x, to have precision decimal places. **NOTE** If precision is greater than or equal to 10, this function rounds the argument, x, to the nearest precision. **EXAMPLE** `round(3.14159265, 4)` will return 3.1416 `round(1492.14, 10)` will return 1490 `round(1492.14, 100)` will return 1500
`string rtrim(string x)`	Trims spaces from the right side of the string argument, x. **EXAMPLE** `rtrim(" ExamView ")` will return `" ExamView"`
`string sciens(double x)`	Function returns a string representation of the argument, x, in scientific notation. **NOTE** You must be sure to also change the format to Scientific Notation and select the number of decimal places when formatting the variable. **EXAMPLE** `sciens(143948.123)` will return 1.44×10^5 when using 2 decimal places.

Syntax	Description
`double sdev(list data)`	Returns the standard deviation of the data values in the list. Data values are assumed to be the entire population (not a sample). Result is the square root of the population variance. (see variance).
`double sec(double x)`	Computes the secant of the argument, x. The angle is specified in radians.
`double sech(double x)`	Computes the hyperbolic secant of the argument, x. This evaluates to 1 / cosh(x).
`string sentence(string x)`	Changes string argument, x, into a sentence that can be subdivided using the choose function. This allows us to create a sentence that can word wrap. **EXAMPLE** `sentence("This is a long sentence that might need to wrap.")` `choose(3, mySentence)` to access the 3rd tenth of the variable `mySentence`.
`string sfracs(double` *`numer`*`, double` *`denom`*`)`	After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "numer/denom". When displayed, this function will draw a small stacked fraction if necessary. If denom is 0, the function will return "0". **EXAMPLE** `sfracs(22, 6)` will return $\frac{11}{3}$ `sfracs(22, 11)` will return 2
`int sgn(double x)`	If the argument, x, is less than zero, this function returns -1. If the argument, x, is greater than zero, this function returns 1. Otherwise it returns zero.
`string sgns(double x)`	If the argument, x, is less than zero, this function returns "-". Otherwise it returns "+".

Syntax	Description
`string sigfig(double x, int numSigFigs, Boolean forceNumSigFigs)`	Creates a string version of the argument, x, that has numSigFigs significant digits. If forceNumSigFigs is TRUE, then the string returned will have exactly numSigFigs significant digits (even if the function has to randomly create some digits). If forceNumSigFigs is FALSE, then the function will return a string that has numSigFigs significant digits or less. **EXAMPLE** `sigfig(12362, 3, FALSE)` will return 12400 `sigfig(2.14, 5, TRUE)` will return 2.1400 `sigfig(1400, 4, TRUE)` might return 1427
`double sin(double x)`	Computes the sine of the argument, x. The angle is specified in radians. Values are returned in the range -1 to 1 inclusive.
`double sinh(double x)`	Computes the hyperbolic sine of the argument, x.
`string smixfracs(double numer, double denom)`	After reducing the fraction numer / denom, this function will return a string as either a whole number, or a fraction in the form "whole/numer/denom". When displayed, this function will draw a small stacked fraction if necessary. If denom is 0, the function will return "0". **EXAMPLE** `smixfracs(22, 6)` will return $3\frac{2}{3}$ `smixfracs(2, 6)` will return $\frac{1}{3}$

`list sort(Boolean sortAscending, double arg1, double arg2, ...)`
`- or -`
`list sort(Boolean sortAscending, list dataList)`
	This function will sort the list of arguments. All of the arguments must be numeric (or the list must have been composed of only numeric data). Function will return a list that can be used as an argument for choose( ).
	`sort(TRUE, 1, 14, 3.2, 6, 9) will return 1, 3.2, 6, 9, 14`
	`- or -`
	`listOfData = list(12, -3, 5)`
	`sort(FALSE, listOfData)` will return `"12, 5, -3"`

`double sqr(double x)`	Computes the positive square root of the argument, x. The argument must be greater than or equal to zero.

Syntax	Description
`string sqrs(double x)`	After reducing the argument, x, to a multiple of a whole number and a radical, it returns a string representation in the form whole (square root) radical. When displayed, this function will draw a radical if necessary. **EXAMPLE** `sqrs(18)` will return $3\sqrt{2}$ `sqrs(16)` will return 4 `sqrs(-8)` will return $2i\sqrt{2}$ `sqrs(3.14159)` will return $\sqrt{3.14159}$
`double sqrt(double x)`	Computes the positive square root of the argument, x. The argument must be greater than or equal to zero.
`string srfracs(double numer, double denom)`	Reduces the fraction numer / denom. When displayed, this function will always draw a small ratio in stacked fraction form. If denom is 0, the function will return "0". **EXAMPLE** `srfracs(22, 6)` will return $\frac{11}{3}$ `srfracs(22, 11)` will return $\frac{2}{1}$
`string str(double x)`	Returns a string representation of the argument, x. **EXAMPLE** `str(18)` will return `"18"`
`string strdup(string x, int numTimes)`	Returns a string by combining the string argument, x, a variable number of times. **EXAMPLE** `strdup("(2)", 5)` will return `"(2)(2)(2)(2)(2)"`
`double sum(list data)`	Returns the sum of the data values in the list.

Syntax	Description
`string symbol(string x)`	Converts the string argument, x, to the appropriate Symbol character. **NOTE** Once the variable is inserted into a question or narrative, you need to highlight the variable and change it to Symbol font for it to display properly. The following list shows valid arguments to this function. For all other Symbol characters, use the chr function. `symbol ("<=")` will return "≤" `symbol (">=")` will return "≥" `symbol ("<>")` will return "≠" `symbol ("x")` will return "×" `symbol (".")` will return "▪" `symbol ("/")` will return "⁄"
`double tan(double x)`	Computes the tangent of the argument, x. The angle is specified in radians.
`double tanh(double x)`	Computes the hyperbolic tangent of the argument, x. This evaluates to sinh(x) / cosh(x).
`testversion`	[pseudo constant] Represents the current test version ("A", "B", "C", etc.).
`string trim(string x)`	Trims spaces from both the left and the right side of the string argument, x. **EXAMPLE** `trim(" ExamView ")` will return `"ExamView"`
`TRUE`	[Constant] 1.
`string ucase(string x)`	Converts the string argument, x, to upper case. **EXAMPLE** `ucase("ExamView")` will return `"EXAMVIEW"`

Syntax	Description

`list unsort(list` *`dataList`*`)`	This function will "unsort" or scramble the list of arguments. The list passed in as an argument must have been composed of only numeric data. Function will return a list that can be used as an argument for choose( )
	`listofData = list (1, 2, 3, 4)`
	`unsort(ListofData) might return "2, 4, 3, 1"`

`double val(string x)`	Returns a numeric representation of the string argument, x. **EXAMPLE** `val("18")` will return 18 `val("-4")` will return -4
`double variance(list` *`data`*`)`	Returns the variance of the data values in the list. Data values are assumed to be the entire population (not a sample). Actual formula used is: $\mathbf{variance}\left(x\right) = \frac{1}{N}\sum_{i=1}^{n}(X_i - \mu)^2$
`expression XOR expression`	Returns the bitwise exclusive-OR or the two expressions.
`YES`	[Constant] 1.

The Graph Tool

The graph tool provides you with three graph options:

Cartesian Graphs
Polar Graphs
Number Lines

Cartesian Graphs

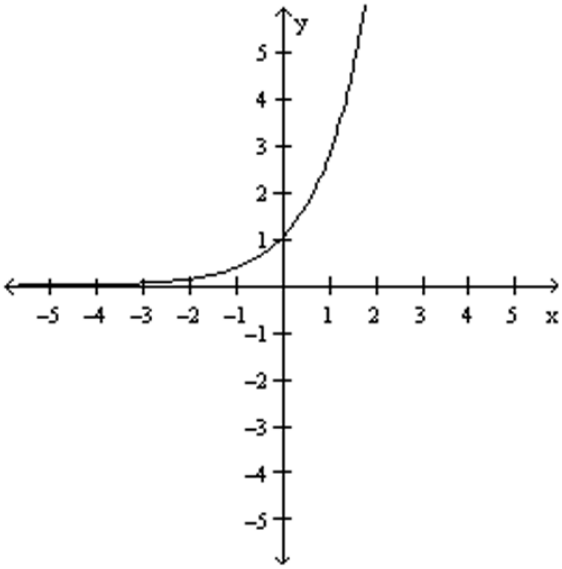
A cartesian graph is a graph defined by cartesian or rectangular coordinates x (the horizontal coordinate) and y (the vertical coordinate). The horizontal coordinate (x) is the horizontal distance from a point to the origin. The vertical coordinate (y) is the vertical distance from a point to the origin. Cartesian graphs may be inserted into a question, answer, matching group, or narrative.

This section covers the following topics:

Inserting a Cartesian Graph
f(x) or f(y)
Parabola
Circle
Ellipse
Hyperbola
Point (x, y)
Segment
Polynomial
Parametric Function
Normal Curve
Picture
Shapes
Pie Chart
Text Box
Compound

Inserting a Cartesian Graph

The graph pictured is a representation of y = e ^ x.



1. Position the cursor at the location where you want to insert the graph.
2. Click **Insert** from the menu bar, mouse over **Graph** and select **Cartesian**.

   A cartesian graph with default properties is inserted, and the *Format Graph – Cartesian* window opens.

   The Functions tab lets you add, edit, and delete items from the graph. These items include f(x), f(y), Parabola, Circle, Ellipse, Hyperbola, Point(x, y), Segment, Polynomial, Parametric, Normal Curve, Picture, Shape, Pie Chart, Text Box, and Compound.

   The Axes tab lets you add change attributes of the horizontal and vertical axes such as the scale (units per tick), ticks per inch, and line styles.

   The View tab lets you add change the size and background of the graph, and whether it is centered on a certain value or anchored at the lower left to a certain value.
3. Click the **Functions** tab, select the type of item you want to add from the drop-down menu and click **New**.
4. To edit existing items, select the description of the item and click **Edit** (or double-click the description).
5. To delete an item, select the description of the item and click **Delete**.
6. To change the order of the items on the graph, click the item you want to reorder and drag it to the correct position.
7. Click the **Axes** tab, enter labels for the horizontal and vertical axes or choose to leave the labels blank. By default, the labels are **x** and **y**. Click **Font** to set the font characteristics of the labels. The font characteristics used for the axes labels are also used for the tick labels.

> **NOTE**
> Variables cannot be used as values for the axes labels, units per tick, ticks per inch, ticks per label, width, height, or baseline. Variables can be used to define most of the attributes for the items added to the graph.

8. Set the **scale (units per tick)** for the each axis. Units per tick must be greater than zero.
9. Set the **ticks per inch** for each axis. Values must be between 1 and 50.
10. Set the **ticks per label** for each axis. Values must be between 1 and 99.
11. Set each **axis width**. You can hide the axes altogether, or display each axis with a thin or a thick line.
12. Set the **axis colors**. To change the color of the axes labels or the tick mark labels, click **Font**.
13. By default, each axis displays tick marks and tick-mark labels. To show or hide these click the **Show tick marks** and **Label tick marks** check boxes.
14. Click **Zoom In** or **Zoom Out** to quickly change the units per tick for both axes. Zooming in or out automatically applies changes to the graph.
15. Click **Clear** to remove the axes labels, tick marks, tick mark labels, and background. This is useful if you are using the graph to display a picture or shape.
16. Click the **View** tab, enter a **width**, **height**, and **baseline (in inches)** for the graph.

17 Select a **background** style for the graph. The background can be blank, dotted, or lined. If you select a lined or dotted background, you can also choose a color. By default, the background is blank. Lined or dotted backgrounds help define the coordinate system.

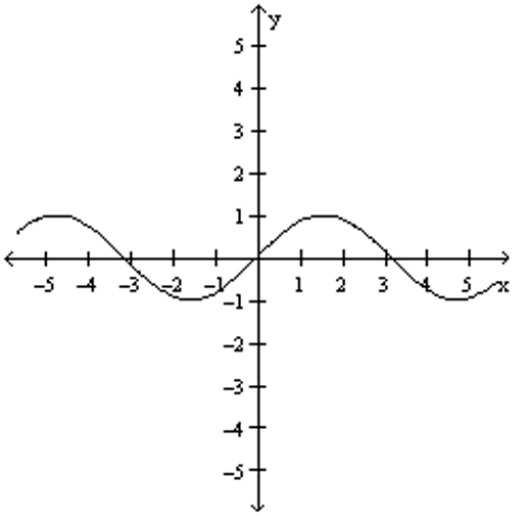
18 Set the **center** or the **lower left** of the graph. Enter **x**, **y coordinate values** in the appropriate section.

19 Click the **Web** tab to enter **alternate text** to be displayed when the student points to the graph while taking an online test.

20 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *Format Graph – Cartesian* window.

> **TIP**
> If you inadvertently apply changes that you do not want to the graph, close the *Format Graph – Cartesian* window, click **Edit** from the menu bar and select **Undo**. This will cancel all changes made while the window was displayed, including inserting new items.

f(x) or f(y)



1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **f(x)** or **f(y)** from the drop-down menu and click **New**.

3 Enter a **function** using x or y as the variable. The example shown above shows the function **sin(x)**. Use the same algorithmic syntax used to define variables.

4 Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.
The relation determines the line style for the function as well as whether the area above or below the function is shaded.

5 Enter the **domain** of the function. The default domain for functions of x or y is from -inf(infinity) to inf(infinity).

6 Optionally, to display the function only if a certain condition is met, enter the condition in the field following **Display function (only if)**.

7 To change the drawing style for the function, click the **Pattern** drop-down menu .

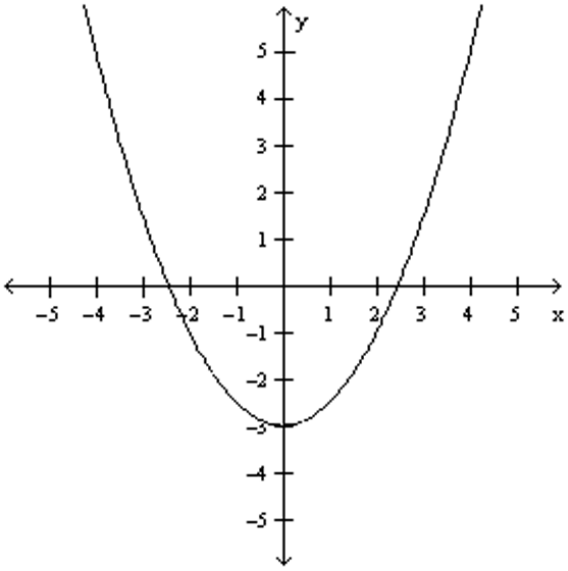
8 To change the color of the function, click the **Color** drop-down menu .

9 To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.

10 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Function* window.

> **NOTE**
> Variables can be used anywhere in the function definition or as values for the domain. Click the Add from List button next to the function definition to display a list of currently defined variables, constants, and keywords.

Parabola



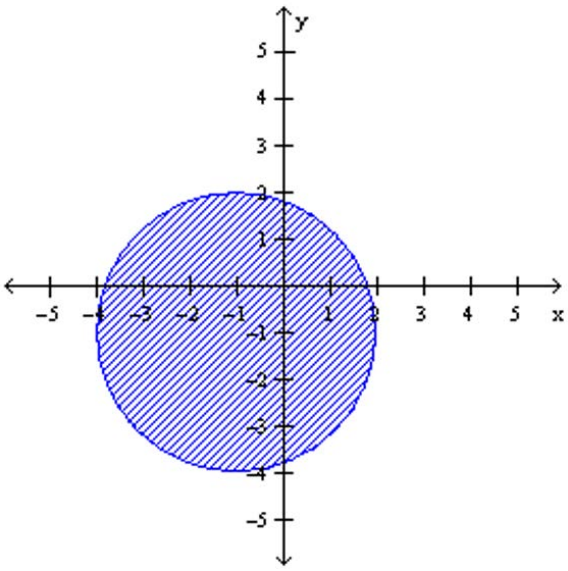
1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative. To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Parabola** from the drop-down menu and click **New**.
3. Select a **parabola type**. The parabola can be open horizontally or vertically, and have the vertex on the origin or on an arbitrary point.
4. Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.

   The relation determines the line style for the parabola as well as whether the area above or below the parabola is shaded.
5. Enter a value for **a** (the distance between the vertex and the focus).

> **NOTE**
> Variables can be used as values for the distance between the vertex and the focus and the vertex coordinates.

6. Enter values for **h** and **k** (vertex), if the vertex is not on the origin.
7. Enter the **domain** of the parabola. By default, the domain is from -inf(infinity) to inf(infinity)..
8. Optionally, to display the parabola only if a certain condition is met, enter the condition in the field following **Display function (only if)**.
9. To change the drawing style for the parabola, click the **Pattern** drop-down menu .
10. To change the color of the parabola, click the **Color** drop-down menu .
11. To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.
12. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Parabola* window.

Circle

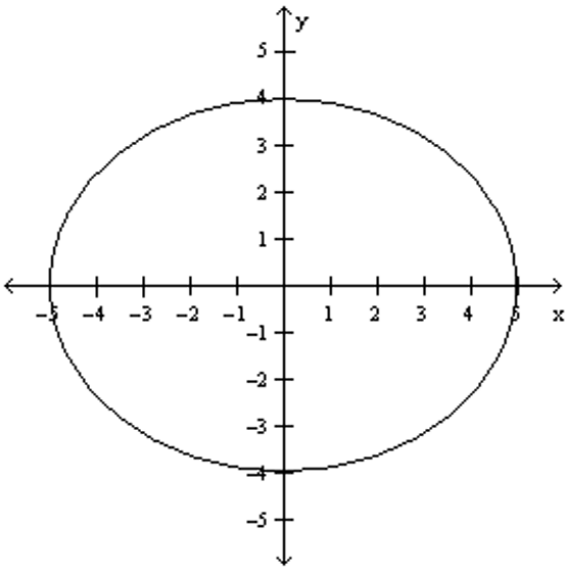


1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Circle** from the drop-down menu and click **New**.
3. Select a **circle type**. The circle can be centered on the origin or on an arbitrary point.
4. Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.
   The relation determines the line style for the circle as well as whether the area inside or outside the circle is shaded.
5. Enter a value for **r** (the radius).

> **NOTE**
> Variables can be used as values for the radius and the center point.

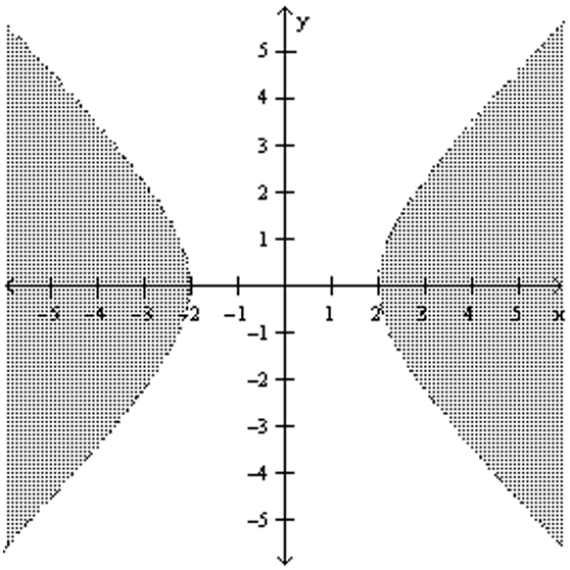
6. Enter values for **h** and **k** (the center) if the circle is not centered on the origin.
7. Optionally, to display the circle only if a certain condition is met, enter the condition in the field following **Display circle (only if)**.
8. To change the drawing style for the circle, click the **Pattern** drop-down menu .
9. To change the color of the circle, click the **Color** drop-down menu .
10. To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.
11. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Circle* window.

Ellipse



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Ellipse** from the drop-down menu and click **New**.
3. Select an ellipse type. The ellipse can be centered on the origin or on an arbitrary point.
4. Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.
   The relation determines the line style for the ellipse as well as whether the area inside or outside the ellipse is shaded.
5. Enter values for **a** (semimajor axis) and **b** (semiminor axis).
6. Enter values for **h** and **k** (the center) if the ellipse is not centered on the origin.
7. Optionally, to display the ellipse only if a certain condition is met, enter the condition in the field following **Display ellipse (only if)**.
8. To change the drawing style for the ellipse, click the **Pattern** drop-down menu .
9. To change the color of the ellipse, click the **Color** drop-down menu .
10. To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.
11. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Ellipse* window.

Hyperbola



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Hyperbola** from the drop-down menu and click **New**.
3. Select a **hyperbola type**. The hyperbola can be open horizontally or vertically, and centered on the origin or on an arbitrary point.
4. Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.
   The relation determines the line style for the hyperbola as well as whether the area inside or outside the curves is shaded.

5 Enter values for **a** (semimajor axis) and **b** (semiminor axis).

> **NOTE**
> Variables can be used as values for the semimajor axis, the semiminor axes, the center point, and the domain.

6 Enter values for **h** and **k** (the center) if the hyperbola is not centered on the origin.

7 Enter the **domain** of the hyperbola. By default, the domain is from -inf(infinity) to inf(infinity).

8 Optionally, to display the hyperbola only if a certain condition is met, enter the condition in the field following **Display hyperbola (only if)**.

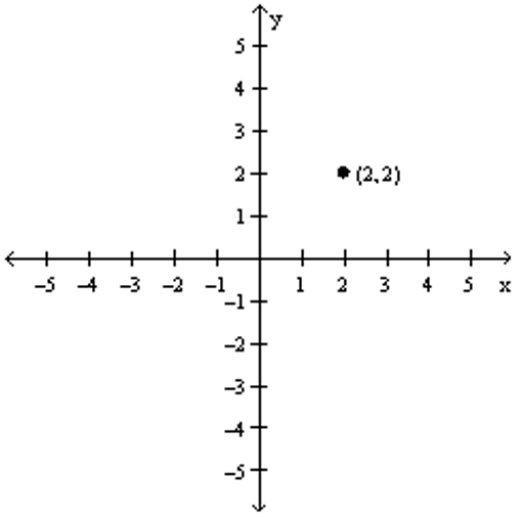
9 To change the drawing style for the hyperbola, click the **Pattern** drop-down menu .

10 To change the color of the hyperbola, click the **Color** drop-down menu .

11 To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.

12 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Hyperbola* window.

Point (x, y)



1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **Point(x,y)** from the drop-down menu and click **New**.

3 Enter **coordinates** for the point.

> **NOTE**
> Variables can be used as values for the coordinates and the label.

4 Select a **point style**. The point style can be none, solid, or hollow.

5 Select a **label style**. You can have no label, use the coordinates of the point as the label, or optionally enter a text label. Click **Font** to set the font characteristics for the label.

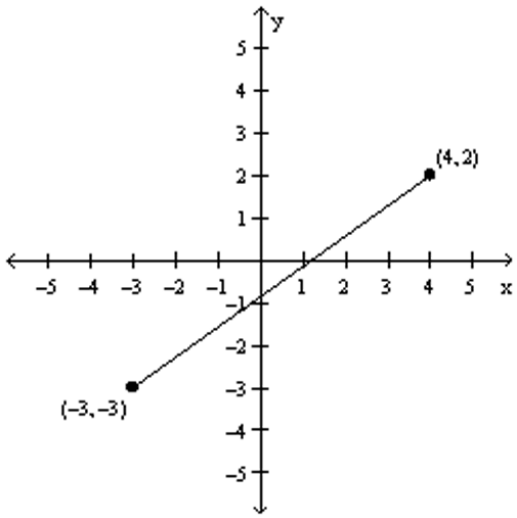
6 Select a **label position**. You can select where the label will appear in relation to the point.

7 To display the point only if a certain condition is met, enter the condition in the field following **Display point (only if)**.

8 To change the color of the point, click the **Color** drop-down menu . To change the color of the label, click **Font**.

9 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Point* window.

Segment



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Segment** from the drop-down menu and click **New**.
3. Enter the **endpoint coordinates** for the line segment.

> **NOTE**
> Variables can be used as values for the endpoints and the labels.

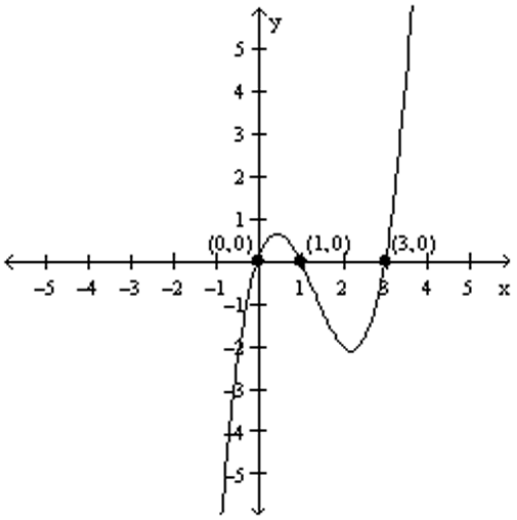
4. For each endpoint, you can select a **point style**, **label style**, and **label position**.
5. To display the segment only if a certain condition is met, enter the condition in the field following **Display segment (only if)**.
6. To change the drawing style for the segment, click the **Pattern** drop-down menu.
7. Click the **Color** drop-down menu to change the color of the segment and the endpoints.
8. To change the color of the labels, click **Font**.
9. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Segment* window.

Polynomial

A polynomial in one variable (sometimes called a univariate polynomial) with constant coefficients is given by:

$$a_n x^n + a_{n-1} x^{n-1} + ... + a_2 x^2 + a_1 x + a_0$$

ExamView Test Generator lets you define a univariate polynomial by points, zeroes, critical points, or zeroes of the 2nd derivative. The following graph is a polynomial with zeroes at 0, 1, and 3.



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Polynomial** from the drop-down menu and click **New**.
3. Select a method to **define the polynomial** from the drop-down menu. The options are: points (coordinates that lie on the curve), zeroes (positions where the curve crosses the horizontal axis), critical points (positions where the curve is parallel to the horizontal axis), or zeroes of the 2nd derivative (inflection points in the curve).
4. Select a relation from the drop-down menu: equals, less than, less than or equal to, greater than; or greater than or equal to.

The relation determines the line style for the curve as well as whether the area above or below the curve is shaded.

5 For each point defined, select a **label style**, **point style**, and **label position**.

6 For a polynomial defined by zeroes, enter a **scale factor**.

7 For a polynomial defined by critical points, enter a **scale factor** and a **y-intercept**.

8 For a polynomial defined by zeroes of the 2nd derivative, enter a **scale factor**, **y-intercept**, and the **slope of the curve at x = 0**.

> **NOTE**
> Variables can be used as values for the points, the scale factor, the y-intercept, the slope at x=0, anywhere in the function definitions or as values for the domain.

9 To display the polynomial only if a certain condition is met, enter the condition in the field following **Display polynomial (only if)**.

10 Enter the **domain** for the polynomial. By default, x will range from -inf(infinity) to inf(infinity).

11 To change the drawing style for the polynomial, click the **Pattern** drop-down menu .

12 To change the color of the polynomial and the points, click the **Color** drop-down menu .

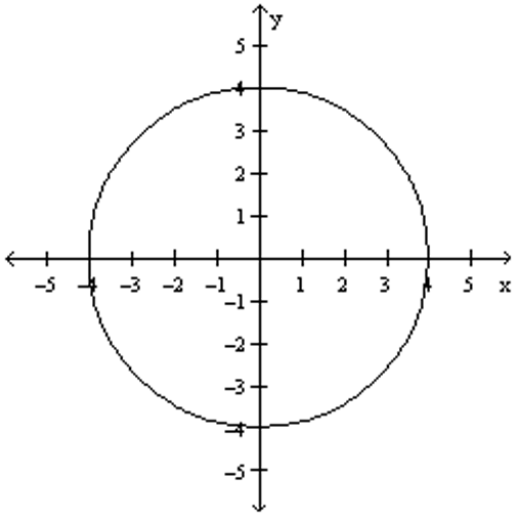
13 To change the color of the labels, click **Font**.

14 To change the style for the shaded region, click the **Shading** drop-down menu . If the relation is ”r;=”, the shading style is not used.

15 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Polynomial* window.

Parametric Function

Parametric equations provide a convenient way to represent curves on a cartesian graph. With a parametric equation, x and y are both determined as a function of a third independent variable (t). The following graph shows x = f(t)= 4 * cos(t) and y = g(t) = 4 * sin(t). The domain of the function is from 0 to 2 * pi.



1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **Parametric** from the drop-down menu and click **New**.

3 Enter functions for **x = f(t)** and **y = g(t)** using t as the variable. Use the same algorithmic syntax used to define variables.

4 Enter the **domain of t**. By default, t will range from –20 to +20.

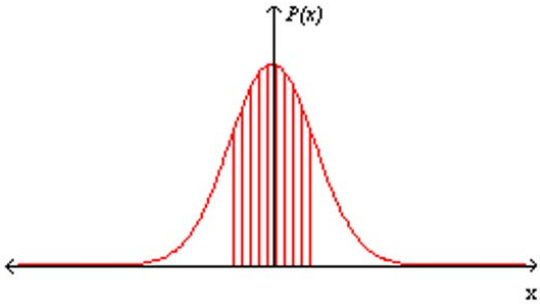
> **NOTE**
> Variables can be used anywhere in the function definition or as values for the domain.
>
> Click the **Add from List** button next to the function definitions to display a list of currently defined variables, constants, and keywords.

5 To change the drawing style for the function, click the **Pattern** drop-down menu .

6 To change the color of the function, click the **Color** drop-down menu .

7 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Parametric Function* window.

Normal Curve



1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative. To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Axes** tab, choose to hide the tick marks and the tick-mark labels for both the horizontal and vertical axis. In the example, the label for the vertical axis was changed to **P(x)** and the font for the axis was changed to italic.

3 Click the **View** tab, select **Set graph left** and change the **x coordinate to –5**.

4 Click the **Functions** tab, select **Normal Curve** from the drop-down menu and click **New**.

5 Enter the **mean** and **standard deviation** for the curve. If you want the vertical axis to go through the mean, leave the mean value set to zero.

> **NOTE**
> Variables can be used as values for the mean, standard deviation, shading limits, and scaling factor.

6 Optionally, for the shade part of the normal curve, select the option to **shade curve form** and enter the **lower and upper limits** as a multiple of the standard deviation. In the example, the standard deviation was set to 1, and the shading was set to –1 s to 1 s.

7 Enter the **scaling factor**. This is used just for display purposes. The scaling factor in the example was set to 12.

8 Optionally, to display the curve only if a certain condition is met, enter the condition in the field following **Display curve (only if)**.

9 To change the drawing style for the curve, click the **Pattern** drop-down menu .

10 To change the color of the curve, click the **Color** drop-down menu .

11 To change the style for the shaded region, click the **Shading** drop-down menu .

12 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Normal Curve* window.

Picture

Picture files, such as bitmap and jpegs, can be added to a Cartesian graph.

1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

> **NOTE**
> Most of the time when you are adding a picture or a shape to a cartesian graph, you will want to clear the axes, background, and labels. With the *Format Graph – Cartesian* window open, switch to the **Axes** tab and click **Clear**.

2. Click the **Functions** tab, select **Picture** from the drop-down menu and click **New**.
3. Click **Select**, navigate to the **location** of the picture, **select it** and click **Open**.
   The default picture type is bitmap (BMP). Click the **List files of type** box and choose the type of picture files you want to insert. The program supports the following formats: bitmap (BMP), jpeg (JPG), TIFF, and Mac PICT (PCT)

> **NOTE**
> Pictures inserted into a graph are required to be monochrome (black and white) or 16 color (default PC palette). If a picture is inserted that requires more colors, it will have its colors reduced to 16. It is recommended that only black and white pictures be added to graphs.

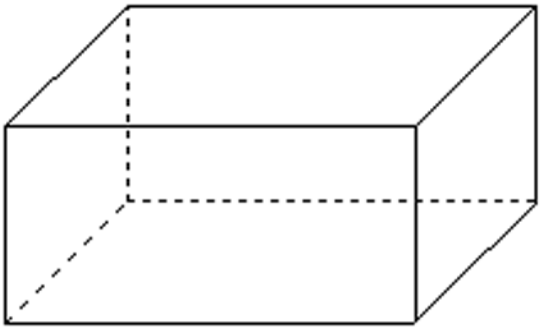
4. Enter the **left x** and **top y** coordinates for the picture or shape.
5. Enter the **width** and **height** of the shape.

> **NOTE**
> Variables can be used for the picture name, or as values for left x, top y, width, and height.

6. To have the program maintain the original **aspect ratio** of the picture (ratio between the width of the picture and the height). If you turn this option off, you can size the picture to have any aspect ratio you want.
7. To display the picture only if a certain condition is met, enter the condition in the field following **Display picture (only if)**.
8. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Picture* window.
   There is a preview to see how the picture or shape will look in the graph.

Shapes

Shapes can be added to a Cartesian graph. Over 20 shapes are available. The following shows a Cartesian graph with the axes, background, and labels cleared and with a shape named prism added to the graph.



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

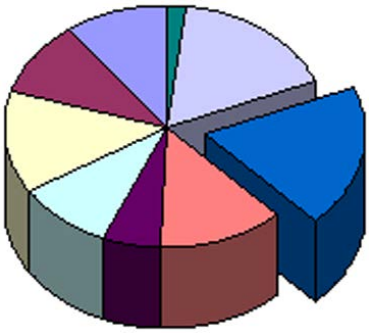
> **NOTE**
> Most of the time when you are adding a picture or a shape to a Cartesian graph, you will want to clear the axes, background, and labels. With the *Format Graph – Cartesian* window open, switch to the **Axes** tab and click **Clear**.

2. Click the **Functions** tab, select **Shape** from the drop-down menu and click **New**.
3. Select a **shape** from the drop-down menu or enter the name of the shape to display on the graph. The shape will be drawn in the preview window.
4. Enter the **left x** and **top y** coordinates for the shape.
5. Enter the **width** and **height** of the shape.

> **NOTE**
> Variables can be used for the values for left x, top y, width, and height.

6. To display the picture only if a certain condition is met, enter the condition in the field following **Display picture (only if)**.
7. Select a **pattern**, **color**, and **shading** style for the shape.
8. There is a preview to see how the shape will look in the graph. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Shape* window.

Pie Chart



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Pie Chart** from the drop-down menu and click **New**.
3. Enter a value for the **left x**, **top y**, **width**, and **height**.

> **NOTE**
> Variables can be used as values for the left x, top y, width, height, degrees, label, explode distance, starting angle, gap, and pie height.

4. For each pie slice, enter a **size (in degrees)**. Any slices beyond 360 degrees are not drawn on the screen.
5. Optionally, enter a **label** and **explode distance** for any/all of your pie slices. Labels appear to the right of the pie chart. If you enter labels, be sure to set the pie chart width to an amount wide enough that the labels appear.

> **NOTE**
> Invalid entries may cause your pie chart to not display. For example, keep the explode distance to a small number. A large explode distance will cause your pie to be so small that it cannot be seen.

6. Optionally, change the **line pattern**, **line color**, **face shading**, and **face color**. With the default settings, each slice will have a different face color.

7 Optionally, change the **starting angle**, **gap**, **explode direction**, **pie height**, and **label style**. Changing the pie height will give the pie a 3D appearance.

8 To display the pie chart only if a certain condition is met, enter the condition in the field following **Display circle (only if)**.

9 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Pie Chart* window.

Text Box

Text boxes can be added to Cartesian graphs as labels for pictures, as labels for axes, or simply to label portions of a graph not linked to a particular point or requiring text rotation.

1 Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **Text Box** from the drop-down menu and click **New**.

3 Enter the **text** to display on the graph. Click **Font** to set the font characteristics and color for the text.

> **NOTE**
> Variables can be used to define the text, as the center x and y coordinates, or as the rotation.

4 Enter the **center x and y coordinates**. The text will be drawn with half the text to the left of this point, half to the right, half above, and half below.

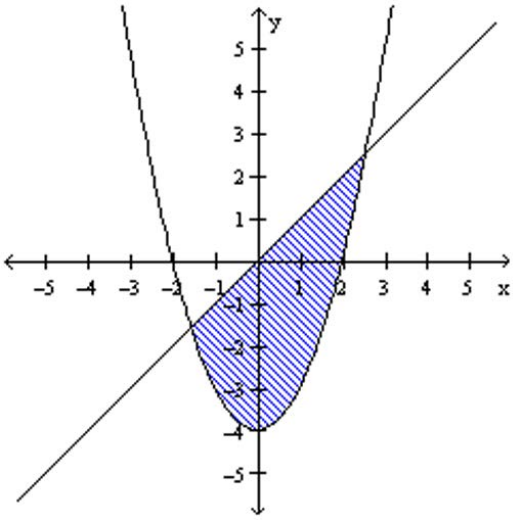
5 Enter the text **rotation**. Leave the rotation set at zero for horizontal text, or enter the number of degrees to rotate the text (counterclockwise from the x axis). For vertical text, set the text rotation to 90 degrees.

6 To display the text only if a certain condition is met, enter the condition in the field following **Display text (only if)**.

7 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Text Box* window.

Compound

The compound function lets you plot a combination of inequalities. The graph pictured shows the result of combining y <= x and y >= x^2 – 4.



1. Insert a Cartesian graph into a question, answer, matching group, rationale, feedback, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Compound** from the drop-down menu and click **New**.
   To add a compound function, you must have at least two inequality (less than, less than or equal to, greater than, or greater than or equal to) functions already added to the graph. In the example, the functions **y <= x** and **y >= x^2 – 4** have already been added. These other functions were created as hidden.
3. A checklist is displayed showing all of the items currently added to the graph that can be combined to create a compound function. Click two or more of the existing functions.
4. Optionally, to display the compound function only if a certain condition is met, enter the condition in the field following **Display compound function (only if)**.
5. To change the color of the compound region, click the **Color** drop-down menu .
6. To change the shading style for the compound region, Click the **Shading** drop-down menu .
7. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Compound Function* window.

Polar Graphs

A polar graph is a graph defined by the polar coordinates r (the radial coordinate) and theta (the angular coordinate). The radial coordinate (r) is the absolute distance from a point to the origin. Theta is the angle, in radians moving counterclockwise, from the horizontal axis. The equation of a curve expressed in polar coordinates is known as a polar equation.

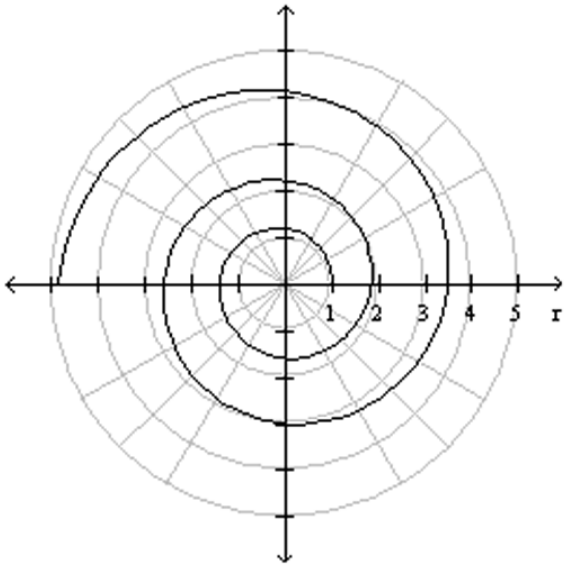
This section covers the following topics:

Inserting a Polar Graph
f(theta)
Point (r, theta)

Inserting a Polar Graph

Polar graphs can be inserted into a question, answer, matching group or narrative.

The graph pictured shows the polar curve r = e ^ (theta / 10) and the domain is from 0 to 5 * pi:



1. Position the cursor at the location where you want to insert the graph.
2. Click **Insert** from the menu bar, mouse over **Graph** and select **Polar**.
   A polar graph with default properties will be inserted, and the *Format Graph – Polar* window will be displayed.
   The Functions tab lets you add, edit, and delete items from the graph. These items include f(theta), and Point (r, theta).
   The Axes tab lets you add change attributes of the polar axis such as the scale (units per tick), ticks per inch, and line styles.
   The View tab lets you add change the size and background of the graph, and whether it is centered on a certain value or anchored at the lower left to a certain value.
3. Click the **Functions** tab, select the type of item you want to add from the drop-down menu and click **New**.
4. To edit existing items, select the description of the item and click **Edit** (or double-click the description).
5. To delete an item, select the description of the item and click **Delete**.
6. To change the order of the items on the graph, click the item you want to reorder and drag it to the correct position.
7. Click the **Axes** tab, enter a **label** to display at the right of the polar axis or leave the label blank. By default, the label is **r**. Click **Font** to set the font characteristics of the label. The font characteristics used for the axis label are also used for the tick labels.

> **NOTE**
> Variables cannot be used as values for the axis label, units per tick, ticks per inch, ticks per label, width, height, or baseline. Variables can be used to define most of the attributes for the items added to the graph.

8 Set the **scale (units per tick)** for the graph. Units per tick must be greater than zero.

9 Set the **ticks per inch**. Value must be between 1 and 50.

10 Set the **ticks per label**. Value must be between 1 and 99.

11 Set the **axis width**. You can choose to hide the axis altogether, or display the axis with a thin or a thick line.

12 Set the **axis color**. To change the color of the polar axis label or the tick mark labels, click **Font**.

13 By default, the polar axis displays tick marks and tick-mark labels. Show or hide these using the **Show tick marks** and **Label tick marks** check boxes.

14 Click **Zoom In** and **Zoom Out** to quickly change the units per tick. Zooming in or out automatically applies changes to the graph.

15 Click **Clear** to quickly remove the axis label, tick marks, tick mark labels, and background.

16 Click the **View** tab, enter a **width**, **height**, and **baseline (in inches)** for the graph. You can also manually set these values from the editing dialog by clicking and dragging the resize handles.

17 Select a **background style** for the graph. The background can be either blank or lined. If you select a lined background, you can also select a line color. By default, the background displays light gray lines.

18 Select **set graph center** or **set graph left**. Enter **x**, **y coordinate values** in the appropriate section. Even though the coordinates for a polar graph are not in x, y coordinates, this system is still used for positioning the graph.

19 Click the **Web** tab, to enter alternate text to be displayed when the student points to the graph while taking an online test.

20 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *Format Graph – Polar* window.

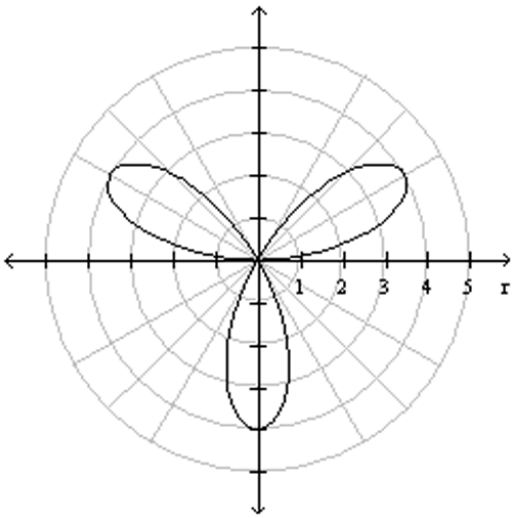
> **NOTE**
> If you inadvertently apply changes that you do not want to the graph, close the Format Graph – Polar window, click Edit from the menu bar and select Undo. This will cancel all changes made while the dialog was displayed, including inserting new items.

f(theta)

1 Insert a polar graph into a question, answer, matching group, or narrative.
To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **f(theta)** from the drop-down menu and click **New**.

3 Enter a function for **r** (the absolute distance from the point to the origin) using theta (the angle, in radians moving counterclockwise, from the horizontal axis) as the variable. The example shows the function **4 * sin(theta * 3)**. Use the same algorithmic syntax used to define variables.

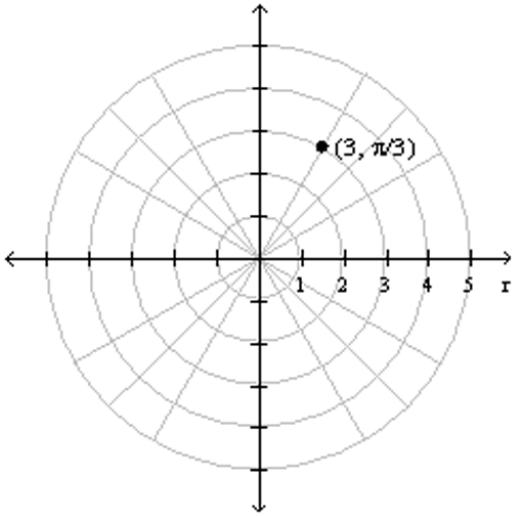


> **NOTE**
> Variables can be used anywhere in the function definition or as values for the domain.
>
> Click the **Add from List** button next to the function definition to display a list of currently defined variables, constants, and keywords.

4. Enter the **domain of theta**. The default domain for functions of theta is from zero to 2 pi.
5. To display the function only if a certain condition is met, enter the condition in the field following **Display function (only if)**.
6. To change the drawing style for the function, click the **Pattern** drop-down menu .
7. To change the color of the function, click the **Color** drop-down menu .
8. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Function – f(theta)* window.

Point (r, theta)

1. Insert a polar graph into a question, answer, matching group, or narrative.
   To edit an existing graph, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Point(r,theta)** from the drop-down menu and click **New**.
3. Enter the coordinate of the point in terms of **r** (the absolute distance from the point to the origin) and **theta** (the angle, in radians moving counterclockwise, from the horizontal axis).



> **NOTE**
> Variables can be used as values for r, theta, and the label.
>
> Values for r must be positive.

4. Select a **point style**. The point styles can be **none**, **solid**, or **hollow**.
5. Select a **label style**. You can have no label, use the coordinates of the point as the label, or optionally enter a text label. Click **Font** to set the font characteristics of the label. If the program determines that the theta coordinate of the point is a multiple of pi (or if a multiple of theta equals pi, as in pi / 4), the display of the theta value will be the pi symbol (p).
6. Select a **label position**. You can select where the label appears in relation to the point.
7. Optionally, to display the point only if a certain condition is met, enter the condition in the field following **Display point (only if)**.
8. Click the **Color** drop-down menu to change the color of the point. To change the color of the label, click **Font**.
9. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Point* window.

Number Lines

A number line is a picture of a straight line on which every point is assumed to correspond to a real number and every real number to a point. Often the integers are shown as specially-marked points evenly spaced on the line.

This section covers the following topics:

Inserting a Number Line

Number lines can be inserted into a question, answer, matching group or narrative.

1. Position the cursor at the location where you want to insert the number line.
2. Click **Insert** from the menu bar, mouse over **Graph** and select **Number Line**.
   A number line with default properties is inserted, and the *Format Graph – Number Line* window opens.
   The Functions tab lets you add, edit, and delete items from the number line. These items include points, segments, rays, lines, box-and-whisker plots, and vectors.
   The Axis tab lets you add change attributes of the number line such as the scale (units per tick), ticks per inch, and line styles.
   The View tab lets you add change the size of the number line, and whether it is centered on a certain value or anchored at the left to a certain value.
3. Click the **Functions** tab, select the type of item you want to add from the drop-down menu and click **New**.
4. To edit existing items, select the description of the item and click **Edit** (or double-click the description).
5. To delete an item, select the description of the item and click **Delete**.
6. To change the order of the items on the graph, click the item you want to reorder and drag it to the correct position.
7. Click the **Axes** tab, enter a **label** to display at the right of the number line or leave the label blank. Click **Font** to set the font characteristics of the label. The font characteristics used for the axis label are also used for the tick labels.

> **NOTE**
> Variables cannot be used as values for the number line label, units per tick, ticks per inch, ticks per label, width, height, or baseline. Variables can be used to define most of the attributes for the items added to the number line.

8. Set the **scale (units per tick)** for the number line. Units per tick must be greater than zero.
9. Set the **ticks per inch**. Value must be between 1 and 50.
10. Set the **ticks per label**. Value must be between 1 and 99.
11. Set the **axis width**. You can hide the axis altogether, or display the axis with a thin or a thick line.
12. Set the **axis color**. To change the color of the number line label or the tick mark labels, click **Font**.

13 By default, the number line displays tick marks and tick-mark labels. To show or hide these click the **Show tick marks** and **Label tick marks** check boxes.

14 Click **Zoom In** and **Zoom Out** to change the units per tick. Zooming in or out automatically applies changes to the number line.

15 Click the **View** tab, enter a **width**, **height**, and **baseline (in inches)** for the number line. You can also manually set these values from the editing window by clicking and dragging the resize handles.

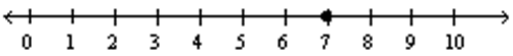
16 Select **set center** or **set left**. Enter a **coordinate value** in the appropriate section.

17 Click the **Web** tab, enter alternate text to be displayed when the student points to the graph while taking an online test.

18 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *Format Graph – Number Line* window.

> **NOTE**
> If you inadvertently apply changes that you do not want to the number line, close the **Format Graph – Number Line** window, click **Edit** from the menu bar and select **Undo**. This will cancel all changes made while the window was displayed, including inserting new items.

Point



1 Insert a number line into a question, answer, matching group, or narrative.
To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

2 Click the **Functions** tab, select **Point** from the drop-down menu and click **New**.

3 Enter the **coordinate** of the point.

> **NOTE**
> Variables can be used as values for the point coordinate and the label.
>
> To display ”r;+” and/or ”r;–”r; in the label, you must enclose the label in quotes. For example: ”r;+5”

4 Select a **point style**. The point styles can be none, solid, or hollow.

5 Select a **label style**. You can have no label, use the coordinate of the point as the label, or optionally enter a text label. Click **Font** to set the font characteristics of the label.

6 Select a **label position**. You can select where the label appears in relation to the point.

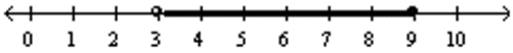
7 To display the point only if a certain condition is met, enter the condition in the field following **Display point (only if)**.

8 To change the color of the point, click the **Color** drop-down menu . To change the color of the label, click **Font**.

9 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Point* window.

Segment

A segment can be used to show that a variable is greater than one value and less than another. For example, the segment on the number line below demonstrates a value greater than two and less than or equal to nine.



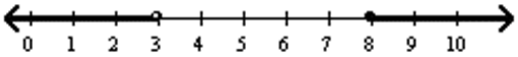
1. Insert a number line into a question, answer, matching group, or narrative.
   To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Segment** from the drop-down menu and click **New**.
3. Enter the **endpoint coordinates** for the line segment.

> **NOTE**
> Variables can be used as values for the endpoint and label.
>
> To display "+" and/or "–" in the label, you must enclose the label in quotes. For example: "+5".

4. Select the **point styles**. The point styles can be none, solid, hollow, parentheses, or bracket. The hollow point, the parentheses, and the bracket are alternate ways to show that the value is not equal to the endpoint.
5. Select the **label styles**. You can have no labels, use the coordinates of the endpoints as labels, or optionally enter text labels. Click the **Font** button to set the font characteristics for the labels.
6. Select the **label positions**. You can select where the labels will appear in relation to the endpoints.
7. To display the segment only if a certain condition is met, enter the condition in the field following **Display segment (only if)**.
8. To change the color of the segment, click the **Color** drop-down menu . To change the color of the labels, click **Font**.
9. Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Segment* window.

Ray

A ray can be used to show that a variable is less than, less than or equal to, greater than, or greater than or equal to a certain value. For example, the ray to the left on the number line below demonstrates a value less than three. The ray to the right demonstrates a value greater than or equal to eight.



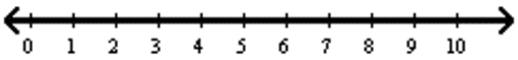
1. Insert a number line into a question, answer, matching group, or narrative.
   To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2. Click the **Functions** tab, select **Ray** from the drop-down menu and click **New**.
3. Select a **direction** for the ray (left or right) and enter an **endpoint coordinate**.

> **NOTE**
> Variables can be used as values for the endpoint and label.
>
> To display "+" and/or "–" in the label, you must enclose the label in quotes. For example: "+5".

4. Select a **point style**. The point style can be none, solid, hollow, parentheses, or bracket. The hollow point, the parentheses, and the bracket are alternate ways to show that the value is not equal to the endpoint.

5 Select a **label style**. You can have no label, use the coordinate of the endpoint as the label, or optionally enter a text label. Click **Font** to set the font characteristics for the label.
6 Select a **label position**. You can select where the label will appear in relation to the endpoint.
7 To display the ray only if a certain condition is met, enter the condition in the field following **Display ray (only if)**.
8 To change the color of the ray, click the **Color** drop-down menu . To change the color of the label, click **Font**.
9 Click **Apply** to see how the ray will look on the number line. Click **OK** to record your changes and close the *New Ray* window.

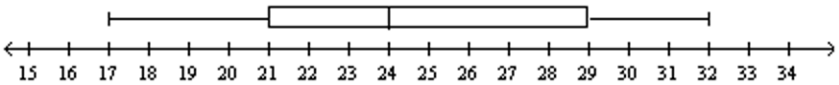
Line



1 Insert a number line into a question, answer, matching group, or narrative.
To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.
2 Click the **Functions** tab, select **Line** from the drop-down menu and click **New**.
3 Optionally, to display the line only if a certain condition is met, enter the condition in the field following **Display line (only if)**.
4 Click the **Color** drop-down menu to change the color of the line.
5 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Line* window.

Box and Whisker Plot

A box-and-whisker plot (or a box plot) is a histogram-like method of displaying data. The plot shows boxes to represent the interquartile ranges, and whiskers (single lines) to the farthest points that are not outliers.



1 Insert a number line into a question, answer, matching group, or narrative.
To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

> **NOTE**
> When a number line is initially created, the program sets a default width and height for the graph. Multiple box-and-whisker plots will display off the top of the number line and be clipped from view. Resize the number line, either with the Format Graph – Number Line dialog, or by clicking on the resize handles and sizing the number line manually.

2 Click the **Functions** tab, select **Box-and-Whisker Plot** from the drop-down menu and click **New**.

3 Enter values for the **lower extreme**, **lower quartile**, **median**, **upper quartile**, and **upper extreme**.

> **NOTE**
> Variables can be used as values for the lower extreme, lower quartile, median, upper quartile, and upper extreme. If you have a data set defined as a variable, use the quartile and median keywords to extract the extremes and interquartile ranges.

4 To display the box-and-whisker plot only if a certain condition is met, enter the condition in the field following **Display box-and-whisker plot (only if)**.

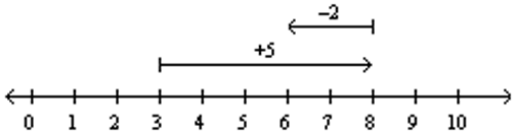
5 To change the color of the plot, click the **Color** drop-down menu .

6 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Box-and-Whisker Plot* window.

> **NOTE**
> You can add multiple box-and-whisker plots to a single number line. Each successive plot will be placed above the preceding one.

Vectors

Vectors can be used to show a multi-step calculation using a number line. For example, you might need to demonstrate how many apples you would have if you start with three, someone gives you five more, and then you give two away.



1 Insert a number line into a question, answer, matching group, or narrative.
To edit an existing number line, double-click the graph or click **Format** from the menu bar and select **Format Graph**.

> **NOTE**
> When a number line is initially created, the program sets a default width and height for the graph. Vector labels, or multiple vectors, will display off the top of the number line and be clipped from view. Resize the number line, either with the Format Graph – Number Line dialog, or by clicking on the resize handles and sizing the number line manually.

2 Click the **Functions** tab, select **Vector** from the drop-down menu and click **New**.

3 Enter the **beginning and ending offsets** for the vector. The offsets are points on the number line. Optionally enter a **label** that will appear over the center of the vector. Click **Font** to set the font characteristics for the label.

> **NOTE**
> Variables can be used as values for beginning offset, ending offset, and label.
>
> To display ”r;+” and/or ”r;–”r; in the label, you must enclose the label in quotes. For example: ”r;+5”.

4 To display the vector only if a certain condition is met, enter the condition in the field following **Display vector (only if)**.

5 To change the color of the vector, click the **Color** drop-down menu . To change the color of the label, click **Font**.

6 Click **Apply** to view your changes in the editing window or click **OK** to record your changes and close the *New Vector* window.

> **NOTE**
> You can add multiple vectors to a single number line. Each successive vector will be placed above the preceding one.

Preferences

The preference settings are divided into five sections.

Changing the Preferences
General
Files
Editing
Layout
Style
Points

Changing the Preferences

Changes made to most ExamView Test Generator preferences will only affect the open question bank or test (this excludes the General, Files and Editing preferences). These preferences are saved with the question bank or test file. To change the preferences for new tests or question banks, save the preferences as the default preferences.

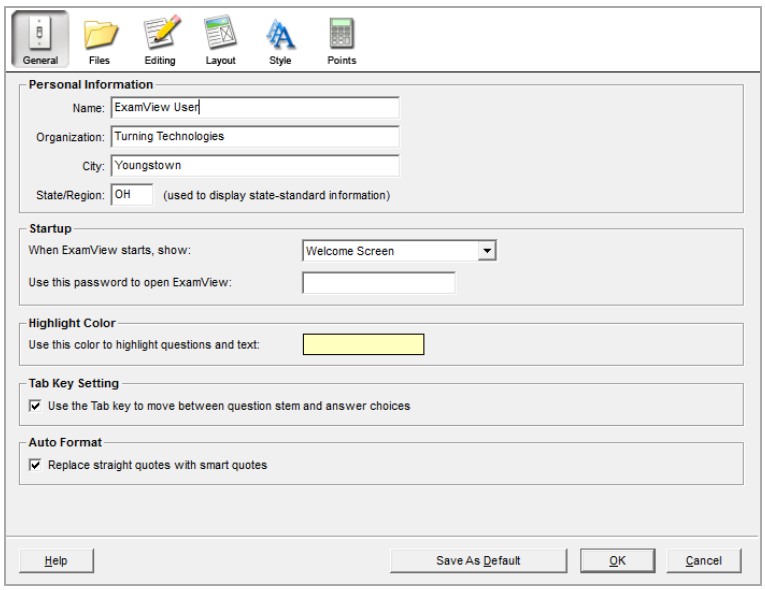
1. Click **Edit** from the menu bar and select **Preferences**.
2. Set the preference options as desired.
   For settings descriptions, see ***General***, ***Files***, ***Editing***, ***Layout***, ***Style*** and ***Points***.
3. Click **OK** to record the settings and close the *Preferences* window.

> **NOTE**
> If a test or question bank is open when you change the settings, the program applies the new settings only to the open document. If no test/question bank is open, or if you click Save as Default, the new settings will apply to any new tests/question banks you create.

General

Personal Information

The information shown here reflects what you entered when you first installed the program. You can change any of the information if it is not correct. Changes to the *State/Region* field may affect the state standards that appear when you open a question bank.



Startup

Change this preference setting to control the startup options. You can, for example, choose to automatically go to the QuickTest Wizard every time you start the program.

Enter a password in the password field if you want to prevent unauthorized access to the program.

Highlight Color

Click here to change the color used for highlighting questions and text.

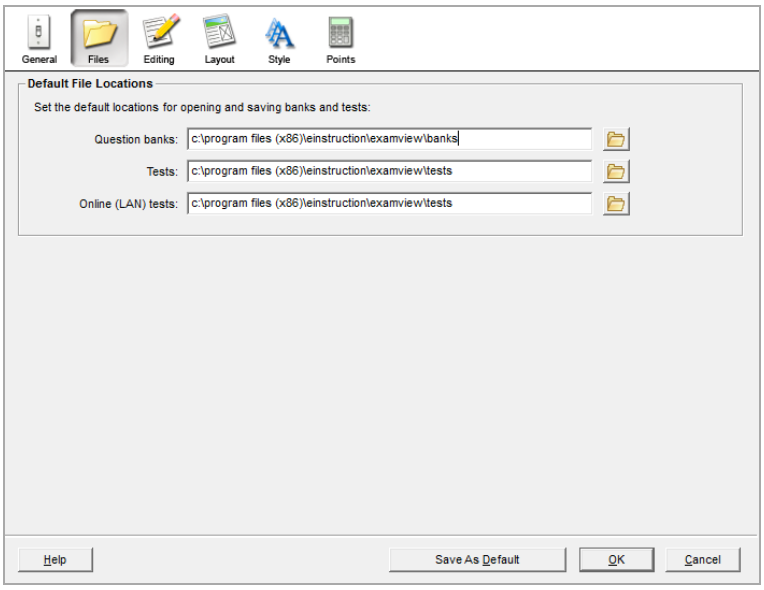
Tab Key Setting

Enable this option if you want the Tab key to move between the question stem and the answer choices. When this option is on, you must press Ctrl+Tab to insert a tab character in the question.

Auto Format

When this option is enabled, the program automatically uses smart quotes as you enter/edit a question.

Files



Default File Locations

Question Banks - The location where the program initially looks when you open or save a question bank file.

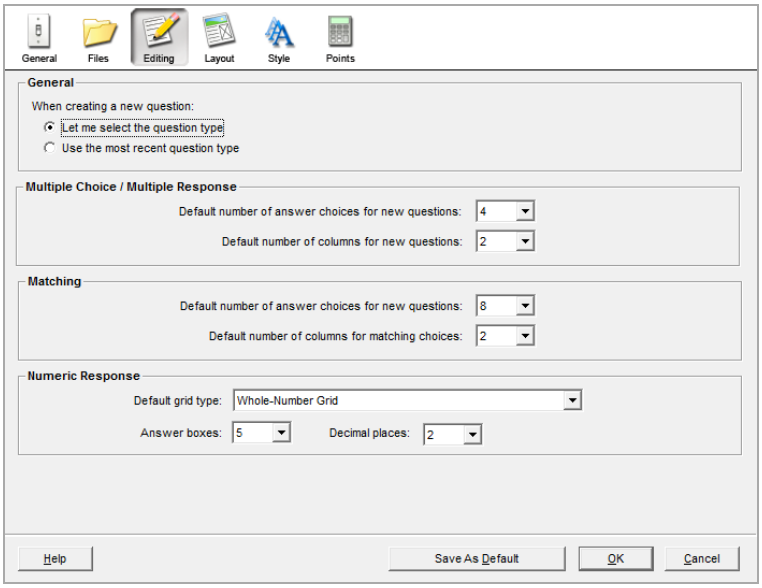
Tests - The location where the program initially looks when you open or save a test file.

Online (LAN) Tests - The location when you choose to save a test for use with the ExamView Test Player software on your local area network.

Editing

General

If *Let me select the question type* is selected, the program always asks you which type of question to create after you click New in the Test Builder/Question Bank Editor window. If you set the *Use the most recent question type* option, the program automatically takes you to a question entry screen based on the last (most recent) question you created.



Multiple Choice/Multiple Response

Use the multiple choice/multiple response preferences to set the default number of choices (2-8) and the default number of columns (1-5) that the program will use when you choose to create a new multiple choice/multiple response question. You can override these settings for each question as needed.

> **TIP**
> While viewing a test, you can globally change the column layout for multiple choice/multiple response questions. Press Ctrl + J to display a window to set the number of columns.

Matching

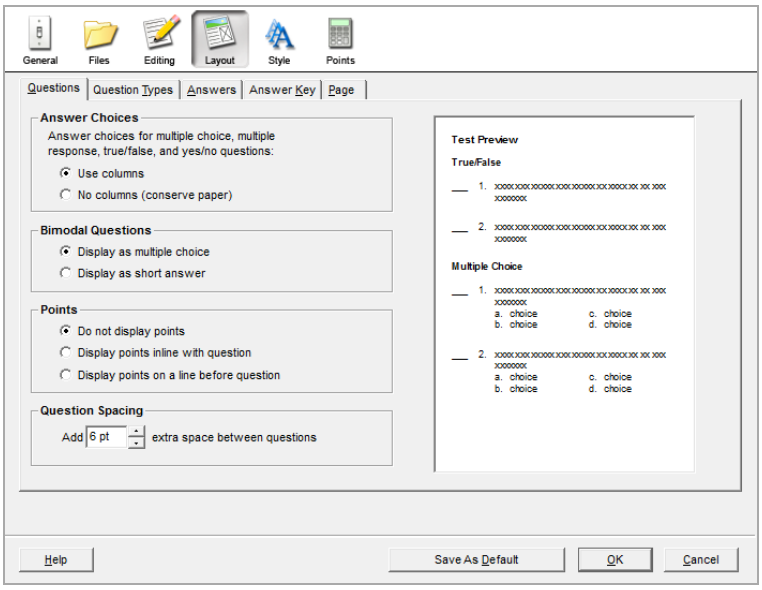
Use the matching preferences to set the default number of choices/questions (2-26) and the default number of columns for the choices (1 or 2). ExamView Test Generator uses these settings when you create a new matching group. You can change the number of columns, choices, or questions while entering/editing a group.

Numeric Response

Use the numeric response preferences to change the default format of the response grid that you can set to appear on tests.

Layout

Questions



Answer Choices - Indicate whether you want the program to format multiple choice, multiple response, true/false, and yes/no questions using the predefined column layout or without columns.

Bimodal Questions - Select whether you want bimodal questions to appear as multiple choice or short answer questions. You can override this preference for individual questions using the Toggle Bimodal command.

Points - Use this setting to set how you want point values to display on a test/question bank. You can choose to display points inline with each question, on a separate line before each question, or to not display point values at all.

Question Spacing - Identify how much space to leave between questions (0 pt. to 36 pt.).

Question Types

Question Grouping - Select if questions should be grouped by question type (e.g. multiple choice questions grouped together, true/false questions grouped together, etc.) or if the question types should be mixed.

> **NOTE**
> The question type instructions are not shown when *Allow question types to be mixed* is selected.

When *Group questions by question type* is selected, you can choose to *Begin each question type on a new page*. When this option is selected the test is formatted so that a section (question type) will start on a new page if the entire section does not fit on the current page. You can also choose to *Restart numbering with each question type*.

Question Numbering - You may also choose to change the question number of the first question.

Answers

Answer Space - Select which question types should include space for a student to write his/her answers directly on the test. For objective questions, such as true/false and multiple choice, an answer space appears before each question number (e.g., _ ___ 1.). For open-ended response questions such as essay or short answer, space appears below the question. For numeric response questions, turn this option on to display response grids.

> **NOTE**
> Because of space limitations, when two-column formatting is enabled answer space cannot be included for the following question types - true/false, modified true/false, multiple choice, multiple response, yes/no, numeric response, and matching.

Answer Lines - Choose this option to show answer lines on a test for questions with open-ended responses (e.g., problem, essay, short answer, etc.). You must also enable the corresponding *Leave answer space for* options.

Answer Key

Select which items you want to appear in the answer key section of the test.

Page

Columns - Select if tests should display in one- or two-column format. (See ***Two-column Formatting*** on page 31 for tips on making the best use of space with two-columns.)

When two column formatting is selected, you may also choose to show vertical lines between columns and/or show horizontal lines between sections.

> **NOTE**
> Some of the layout options (e.g., two-column format to conserve paper) do not apply to online tests.

Page Numbering - Set the page number that will print on the footer of the first page of your test.

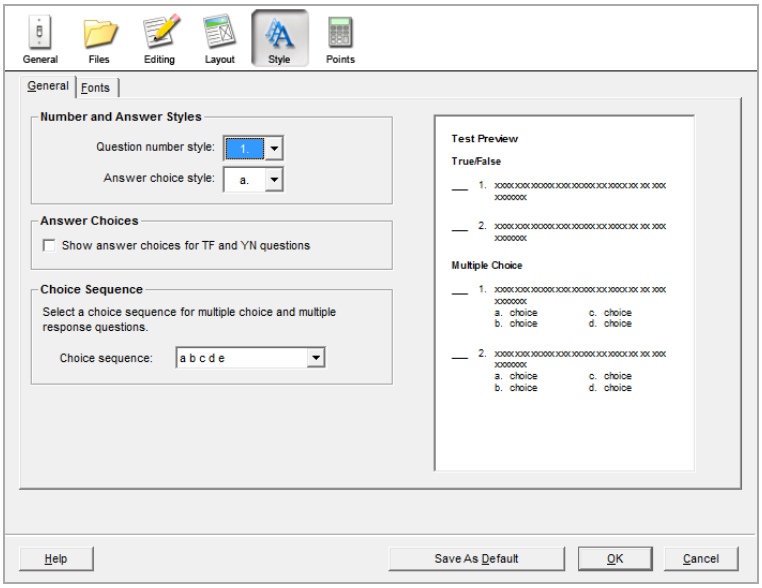
Style

General

Number and Answer Styles - Select the desired question number style. Choose the style for multiple choice, multiple response, and matching answer options.

Answer Choices - Check this box if you want True/False and Yes/No questions to appear with multiple choice answer choices.

Choice Sequence - You may also select a choice sequence for multiple choice/multiple response answer choices. This option helps prevent students from accidentally skipping a multiple choice question and then marking all of their answers with the wrong question number on the answer sheet.



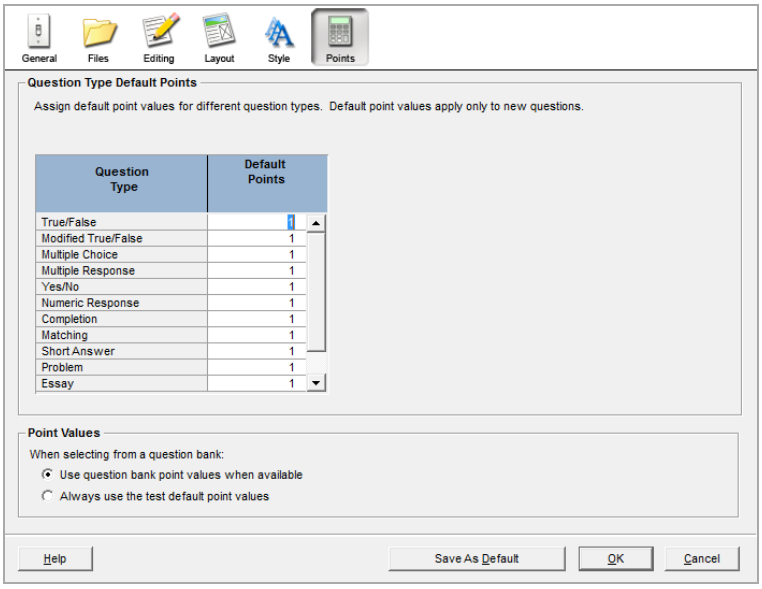
> **NOTE**
> If any of your multiple choice/multiple response questions contain more than 5 answer choices, the choice sequence setting will be disabled.

Fonts

Click *Set* to change the font, font style, size, and color of the text used throughout your tests or question banks.

Points

Use the Points preferences to assign the default point values for the different question types. Point values can be printed on a paper test or used in your online tests to give you more control over assigning credit for correct/incorrect answers.



> **NOTE**
> To edit the point values for all questions in a test or bank, use the Assign Points option from the Question menu. To edit the point values for an individual question, change the point value in the question information.

Question Type Default Point Values

Use this table to assign default point values for each of the question types.

Point Values (Test Builder only)

This setting determines how point values are assigned to questions when you use one of the six question selection methods to select questions for your test. You may choose to use the point values that were assigned to each question when the question bank was created or to use the default values from the preferences.

Learning Management Systems

Using ExamView you can publish or export tests and question banks to popular learning management systems (LMS) that include:

- ANGEL
- Blackboard
- Desire2Learn
- Moodle
- WebCT

The steps to publish or export a test/question bank and use those questions online differ depending on the destination platform.

ANGEL

Using ExamView you can publish or export tests and question banks to ANGEL. Publishing allows you to push content from ExamView directly to the server whereas exporting involves saving a file and uploading it to ANGEL through the browser. These two options give you the flexibility to create tests in ExamView and then deliver them online using ANGEL. You can also set up your LMS to automatically store the test results into your online gradebook.

ExamView allows you to set and publish additional, advanced ANGEL settings to control how the quiz/assessment will be accessed and administered. These settings vary slightly depending upon the version of the ANGEL server (as specified in the server profile set-up). For detailed of descriptions of the available settings, see ***ANGEL 7.0 - 7.2 Advanced Publish Settings*** on page 167 or ***ANGEL 7.3 (and higher) Advanced Publish Settings*** on page 165.

This section covers the following topics:

ANGEL Question Support

The publish and export features map ExamView question types to a the closest corresponding ANGEL question format. A summary of the question type mapping is shown in the table below. If the content is exported rather than published, the mapping is different for a few cases. These differences are indicated in the footnotes.

ExamView Question Type	Equivalent ANGEL Question Type
True/False	True/False*
Modified True/False	True/False*
Multiple Choice	Multiple Choice
Bimodal	Multiple Choice
Multiple Response	Multiple Select
Yes/No	Multiple Choice
Numeric Response	Fill-in-the-blank
Matching	Matching**
Completion	Fill-in-the-blank
Short Answer	Essay
Problem	Essay
Essay	Essay
Case	Essay
Other	Essay

* These question types map to ANGEL's Multiple Choice question type when exported rather than published from ExamView.

** ANGEL requires Matching questions to have the same number of choices and questions. Blank questions will be inserted if there are fewer questions than choices.

A summary of ExamView question information supported when publishing or exporting to ANGEL is shown below.

ExamView Question Information	Publish to ANGEL	Export to ANGEL
Rationale	General Feedback	General Feedback
Points	Points	Points
Difficulty	- -	- -
Reference	- -	- -
Learning Objective	- -	- -
National Standard	- -	- -
State Standard	- -	- -
Local Standard	- -	- -
Topic	- -	- -

ExamView Question Information	Publish to ANGEL	Export to ANGEL
Keywords	--	--
Miscellaneous	--	--
Notes	--	--

ANGEL Publish Location

ExamView publishes the quiz to the *Lessons* section of the ANGEL course. You cannot publish outside of the *Lessons* section, but you can specify publishing to an existing sub-directory within the *Lessons* section.

The *Publish Location* window shows the current folder structure of the *Lessons* section and the publish location as a file path below. To select a different publish location, highlight the folder name and click OK.

If you do not see the desired folder destination, verify that the correct course was selected in the *Publish to ANGEL* window. The publish location window only allows you to select a different location, you cannot create a different folder structure from within ExamView.

Publishing a Test/Question Bank to ANGEL

The test will be published to the *Lessons* section of the ANGEL server. The exact save location within the *Lessons* area is set in the *Publish to ANGEL* window.

If you are using ANGEL 7.3 or 7.4, publishing from ExamView creates an assessment. Older versions of ANGEL creates quizzes. See ***Converting Quizzes to Assessments, Surveys to Enhanced Surveys*** on page 163 for details.

> **NOTE**
> Additional ANGEL settings can be specified by clicking *Settings*. For detailed of descriptions of the available settings, see ***ANGEL 7.0 - 7.2 Advanced Publish Settings*** on page 167 or ***ANGEL 7.3 (and higher) Advanced Publish Settings*** on page 165.

1. Create or open a test/question bank in ExamView Test Generator.
   ANGEL does not support all of the ExamView question types. For more information, see ***ANGEL Question Support*** on page 160.
2. Click **File** from the menu bar, mouse over **Publish To** and select **ANGEL**.
3. Select a **server profile** from the list or create a new profile. If necessary, provide the **username** and **password** (this information can be automatically filled in by checking the Save username and password check box). Click **OK**.
4. Complete the publish options.
   a. Select the ANGEL course from the drop-down menu where the content should be published.

   > **TIP**
   > If you do not see your course in the list, verify that the server and user account information is correct and active

   a. To specify a publish location within the Lessons area of the ANGEL server, click the folder icon button to change this location.
   b. Enter a **quiz/assessment title** for the content.
   c. By default, the ExamView test title will be used but a different title may be specified.

d Select one of three formatting options for the HTML that is uploaded to the ANGEL server. The best option to choose will depend on the type of formatting required by the questions in your test or question bank. The three options are:
   - **HTML** - Maintains as much formatting as possible. Supports fonts, tables, images, etc.
   - **HTML without any fonts** - Maintains all formatting except font and size settings. The font used to display each question will depend on the settings specified by ANGEL and/or your browser.
   - **HTML without default fonts** - This is a combination of the first two options. With this option, ExamView does not set the initial font unless you set a new font other than the default font.

e Optionally, complete additional ANGEL publishing settings by clicking **Settings**.

f For detailed of descriptions of the available settings, see ***ANGEL 7.0 - 7.2 Advanced Publish Settings*** on page 167 or ***ANGEL 7.3 (and higher) Advanced Publish Settings*** on page 165.

5 Click **OK**.

Setting Up and Managing ANGEL Server Profiles

ExamView allows you to manage multiple ANGEL servers or accounts through the use of server profiles. In addition to the server URL, server profiles can store login information by checking the Save username and password checkbox after a profile is created.

The first server profile will automatically be the default and the profile name will be appended with "(Default)" in the list. As additional profiles are added, a different default can be specified by highlighting the name and clicking *Set Default*. The default profile is automatically selected whenever the dialog opens.

1 Click **File** from the menu bar, mouse over **Publish To** and select **ANGEL**.

2 Click **Add New**.
The Server window opens.

3 Enter a **Profile name** that will identify the profile in the list of ANGEL servers. This name can be any name that you choose, its function is just a label for the profile.

> **TIP**
> Each server profile is associated with a specific username and password. Select a profile name that is meaningful and easily recognized to distinguish it from other servers or user accounts.

4 Select the **version number** for the destination ANGEL server from the *Version* drop-down menu.

5 Enter the **ANGEL URL** by pasting in the described address from the browser into the text box.

> **IMPORTANT**
> The URL for this text box should be pasted in from the server's ANGEL Homepage, not the log in page. To do this, open a browser window, navigate to the desired ANGEL server, and log into the account. The Homepage is the page that appears immediately following submitting the login information. Copy this URL and paste it into the text box in ExamView.

6 Click **OK**.
The profile is created if the supplied URL is validated as an ANGEL server.

> **IMPORTANT**
> Because the server must be validated in order to continue, an internet connection must be available to create the profile even though nothing is being published to the server at this time.

7. To modify the server information, select the **profile name** and click **Edit**.
8. To delete a profile, select the **profile name** and click **Remove**.

Exporting a Test/Question Bank for ANGEL

ANGEL does not support all of the ExamView question types. For more information, see ***ANGEL Question Support*** on page 160.

When exporting ExamView content to ANGEL, you choose from one of three formatting options. The best option to choose will depend on the type of formatting required by the questions in your test or question bank. These options are not available when exporting from ExamView Mac.

1. Create or open a test/question bank in ExamView Test Generator.
2. Click **File** from the menu bar, mouse over **Export** and select **ANGEL 7.4**.
3. Set the location where you want to save the exported file.
4. Enter a file **name** and click **Save**.
   The file does not actually get created and saved until the next dialog is completed. The file will be saved as a ZIP file.
5. (PC only) Select the appropriate formatting options from the *Use* drop-down menu:
   - **HTML** - Maintains as much formatting as possible. Supports fonts, tables, images, etc.
   - **HTML without any fonts** - Maintains all formatting except font and size settings. The font used to display each question will depend on the settings specified by ANGEL and/or your browser.
   - **HTML without default fonts** - This is a combination of the first two options. With this option, ExamView does not set the initial font unless you set a new font other than the default font.
6. Click **OK** to export the test/question bank.

Converting Quizzes to Assessments, Surveys to Enhanced Surveys

In ANGEL 7.4, Quizzes have been fully replaced with Assessments, and Surveys have been replaced with Enhanced Surveys. Your new assessments will contain all the questions and settings that were previously associated with your quiz.

If you used a previous version of ANGEL, you will be given the option to update all you quizzes when you upgrade to ANGEL 7.4. Simply select the Convert all my Quizzes now option that appears on the Quizzes to Assessments & Surveys to Enhanced Surveys screen that displays during the upgrade process.

You can also manually convert your quizzes at a later time. Or you can convert your quizzes and surveys before you upgrade to ANGEL 7.4.

> **WARNING**
> Once they have gone through the conversion process, all quizzes will no longer function and are marked with a non-functioning icon.

How to convert quizzes to assessments manually...

1. Click **Utilities** and select the **Lessons** tab.
2. Click the **Course Quiz and Survey Migration** link.
   All your quizzes and surveys are converted.

How to convert all quizzes without upgrading to ANGEL 7.4...

1. Click **Utilities** and select the **Lesson** tab.
2. Click the **Course Quiz Migration** link.
   A prompt is displayed asking if you would like to create backups of all quizzes.
3. Click **Yes** to create copies of the original quizzes which will appear in the *Course Lesson* tab.

How to convert individual quizzes without upgrading to ANGEL 7.4...

1. Select the individual **quiz** to convert.
2. Click **Utilities** and select **Convert Quiz to Assessment**.
   The copy of the quiz remains unchanged, and an assessment of that quiz will be created.

Next Steps

The Assessments will be published to the *Lessons* section of the ANGEL server. The exact save location within the *Lessons* section is set in the *Publish to ANGEL* window. For more information, see ***ANGEL Publish Location*** on page 161.

Uploading an Unzipping Files to ANGEL

1. Log in to your ANGEL 7.1-7.4 server. Your Home page will appear.
2. Select the desired **course name** from the *Courses* box. Your Course page for this selection will appear.
3. Click **Manage** in the tabbed navigation strip. The *Management Console* page appears.
4. Click the **Import Wizard** link from the *Data Management* box. The *Content Import Wizard* page appears.
5. Click the **Content Package** link, the *Content Package Import Wizard* page appears.
6. Click **Browse** to navigate to the desired file and click **Upload File**.
   The *ExamView Import* page appears.
7. Select the desired import settings.
   It is recommended that the *Optimize folder structure* and *Remove unused files after import* check boxes are selected.
8. Click **OK**. An *Upload Successful* message page appears.
9. Click **OK**. A new *ExamView Import* page appears.
10. Click **OK** to return to the *Management Console* when the progress animation indicates that import is complete.

Next Steps

To access the questions, click the *Lessons* link in the tabbed navigation strip. The questions will be listed under their ExamView test/question bank title.

ANGEL 7.3 (and higher) Advanced Publish Settings

Left unchanged, the default values shown for each setting will be transmitted along with the question content.

Content Settings

Setting Name	Default	Description
Subtitle	[blank]	The subtitle text is used when listing the item and also appears at the top of the page when the item itself is selected. The subtitle appears in a smaller font directly beneath the title text. Use subtitles to give longer descriptions of an item.
Directions	[blank]	Description display when the assessment is selected. Use the description to provide additional instructions or descriptive text to the student.

Access Settings

Setting Name	Default	Description
User Tracking	Disabled	Use the tracking option to control when information about visits to a page are logged. You can elect to log access by only certain types of users so that you get the information you need without wasting valuable drive space on the server.
Do not allow users to view this item	[unchecked]	This check box setting allows you to temporarily hide the assessment so that it does not appear. Checking this check box will hide the item even from those people that would normally have rights to view it. This can be helpful if you want to enter an assessment ahead of time, but you do not want it to show up until sometime in the future.
Viewable By	Students	The Viewable By setting allows you to define which types of users should be able to view the assessment. The most common use of this setting is to configure whether guests visiting your course or group should be able to view the assessment.
Password	[blank]	Assign a password to a quiz to further restrict viewing. When not in edit mode, a user must enter a password view the quiz.
Start Date	[unchecked]	Selecting a Start Date prevents the assessment from being displayed until the specified date. This can be useful if you want to enter assessments ahead of time, but you do not want them displayed until a specific date. You might use this setting in conjunction with the End Date setting to restrict access to an assessment to a specific date.
End Date	[unchecked]	Selecting an End Date will prevent the assessment from being displayed after the specified date. You might use this setting in conjunction with the Start Date setting to restrict access to a assessment to a specific day.

Interaction Settings

Setting Name	Default	Description
Display Mode	All Questions	Display Mode specifies whether the questions will all be displayed together on the same page (All Questions), whether they appear on question set at a time (Question Set at a Time) or whether they appear one at a time (Single Question).
Show question titles	[unchecked]	This check box setting allows you to enable or disable showing a the titles for the questions.
Randomize the order in which questions are delivered	[unchecked]	Provides a choice of scrambling questions and/or choices (answers) on an assessment. The Scramble option randomly displays questions and choices so that users are not given the same assessment.
Randomize the order of each question's answer options	[unchecked]	Provides a choice of scrambling questions and/or choices (answers) on an assessment. The Scramble option randomly displays questions and choices so that users are not given the same quiz.
Allow backtrack	[unchecked]	Not allowing backtrack prevents users from going back to previous questions or questions sets once they have advanced past them. This option is only applicable when using the 'r;Question set at a time' or 'r;Question at a time' Display mode settings.
Display feedback after each question	[unchecked]	Sets feedback to display after each question is answered. This option is only applicable when using the 'r;Question at a time' Display mode setting.
Correct answer must be selected before next question presented	[unchecked]	Disables the assessment from advancing to the next question until users select the correct answer.This option is only applicable when using the 'r;Question at a time' Display mode setting.
Attempts allowed	1	Sets the number of times a user can complete the assessment.
Deny additional attempts (Mastery settings)	[unchecked] 0%	When selected, the course editor specifies a percentage to represent mastery on the assessment. User scores equal to or higher than this percentage are considered to demonstrate mastery of the assessment and denied access to retake the assessment.
Validation	Warn about incomplete items	Sets validation options upon submission.
Show save button	[unchecked]	Allows users to save answers and finish the assessment at a later date/time.
Make submissions anonymous	[unchecked]	Allows assessments to be completed and submitted anonymously.
Time Limit	[unchecked] [blank] min.	Determines if the assessment is timed and sets the amount of time allowed to complete the assessment.
Time Warning	Disabled	Provides a warning message to users indicating the amount of time left on the quiz.
Automatically submit when time limit expires	[unchecked]	Determines if the quiz results are automatically submitted when the time limit expires.

ANGEL 7.0 - 7.2 Advanced Publish Settings

Left unchanged, the default values shown for each setting will be transmitted along with the question content.

Content Settings

Setting Name	Default	Description
Quiz Subtitle	[blank]	The subtitle text will be used when listing the quiz in its parent and also appears at the top of the page when the quiz itself is selected. The subtitle appears in a smaller font directly beneath the title text. Use subtitles to give longer descriptions of a quiz.
Directions	[blank]	Directions display when the quiz is selected. Use directions to provide additional instructions to the student.

Access Settings

Setting Name	Default	Description
User Tracking	Disabled	Use the tracking option to control when information about visits to a page are logged. You can elect to log access by only certain types of users so that you get the information you need without wasting valuable drive space on the server.
Do not allow users to view this item	[unchecked]	This check box setting allows you to temporarily hide the quiz. Checking this check box will hide the item from those people that would normally have rights to view it. This can be helpful if you want to enter a quiz ahead of time, but you do not want it to show up until sometime in the future.
Viewable By	Students	The Viewable By setting allows you to define which types of users will be able to view the quiz. The most common use of this setting is to configure whether guests visiting your course or group should be able to view the quiz.
Password	[blank]	Assign a password to a quiz to further restrict viewing. When not in edit mode, a user must enter a password view the quiz.
Start Date	[unchecked]	Selecting a Start Date prevents the quiz from being displayed until the specified date. This can be useful if you want to enter quizzes ahead of time, but you do not want them displayed until a specific date. You might use this setting in conjunction with the End Date setting to restrict access to a quiz to a specific date.
End Date	[unchecked]	Selecting an End Date prevents the quiz from being displayed after the specified date. You might use this setting in conjunction with the Start Date setting to restrict access to a quiz to a specific day.

Delivery Settings

Setting Name	Default	Description
Display Mode	All Questions	Display Mode specifies whether the questions will all be displayed together on the same page (All Questions), whether they appear one at a time (Single Question), or whether they appear one at a time and do not allow the student to navigate back to previous questions (Single Question - No Backtrack).
Display 'Take Quiz' hyperlink to user	[checked]	This check box setting allows you to enable or disable showing a hyperlink to the quiz.
Scramble the order of the questions	[unchecked]	Provides a choice of scrambling questions and/or choices (answers) on a quiz. The Scramble option randomly displays questions and choices so that users are not given the same quiz.
Scramble the order of the question choices	[unchecked]	Provides a choice of scrambling questions and/or choices (answers) on a quiz. The Scramble option randomly displays questions and choices so that users are not given the same quiz.
Time Limit	0 min.	Determines if the quiz is a timed quiz.
Time Warning	Disabled	Provides a warning message to users indicating the amount of time left on the quiz.
Automatically submit when time limit expires	[unchecked]	Determines if the quiz results are automatically submitted when the time limit expires.

Submission Settings

Setting Name	Default	Description
Max Attempts	1	Restricts the number of times an individual user can take a quiz or survey. Setting may be set to Unlimited or restricted to a value between 1 to 10.
Validation	Warn about incomplete items	Allows the instructor to specify what, if any, validation is done when the user attempts to submit the quiz.
Auto-save	Disabled	Allows the instructor to determine if auto-saving is disabled or how frequently a quiz will be saved. This option can be used as a safeguard if the Save button is disabled. Setting may be set to Disabled or values ranging from 5 to 60 minutes.
Do not allow users to save and finish later	[unchecked]	You have to option to disable or enable the Save Button on a quiz. With the Save Button enabled, a student can begin a quiz, save their work, exit the quiz and return with their completed answers intact.
Make submissions anonymous	[unchecked]	This setting makes the quiz anonymous so that responses are not assigned to user IDs.

Blackboard

Using ExamView you can export tests and question banks to Blackboard. This feature gives you the flexibility to create tests in ExamView and then deliver them online via Blackboard. You can also set up your Learning Management System (LMS) platform to automatically store the test results into your online gradebook.

This section covers the following topics:

Blackboard Question Support

The export feature maps ExamView question types to a the closest corresponding Blackboard question format. A summary of the question type mapping is shown in the table below.

ExamView Question Type	Equivalent Blackboard Question Type
True/False	True/False
Modified True/False	True/False
Multiple Choice	Multiple Choice
Bimodal	Multiple Choice
Multiple Response	Multiple Answer
Yes/No	True/False
Numeric Response	Fill-in-the-blank
Matching	Matching
Completion	Fill-in-the-blank
Short Answer	Short Answer / Essay
Problem	Short Answer / Essay
Essay	Short Answer / Essay
Case	Short Answer / Essay
Other	Short Answer / Essay

A summary of ExamView question information supported when exporting to a Blackboard 6.0-7.0 and Blackboard 7.1-9.0 server is shown below.

ExamView Question Information	Blackboard 6.0 - 7.0	Blackboard 7.1 - 9.0
Rationale*	General Feedback	General Feedback
Points	Points	Points

ExamView Question Information	Blackboard 6.0 - 7.0	Blackboard 7.1 - 9.0
Difficulty	- -	Difficulty
Reference	- -	Category
Learning Objective	- -	- -
National Standard	- -	- -
State Standard	- -	- -
Local Standard	- -	- -
Topic	- -	Topic
Keywords	- -	Keywords
Miscellaneous	- -	- -
Notes	- -	- -

*Depends upon selected export settings.

Exporting a Test/Question Bank for Blackboard

Question banks or tests can be exported to a Blackboard-formatted file for import into the LMS. For users of Blackboard 6.0-7.0, the exported file will be in a form of a question pool whether exported from an ExamView test or question bank.

The Blackboard 7.1-9.0 format, however, exports an ExamView test as a test file that is imported using Blackboard's Test Manager. Question banks exported for Blackboard 7.1-9.0 are formatted as a question pool just as in the older Blackboard format. An advantage of the newer Blackboard 7.1-9.0 export format is support for some question information fields. For more information, see ***Blackboard Question Support*** on page 169.

1. Create or open a test/question bank.
2. Click **File** from the menu bar, mouse over **Export**, and select either **Blackboard 6.0– 7.0** or **Blackboard 7.1-9.0**.
3. Select the **save location**, enter a **file name** and click **Save**. The question content is saved as a ZIP file.
   - Take note of where the file is being saved as you will need to locate it later when uploading to the Blackboard Pool Manager or Test Manager.
   - For the PC version, the file is not saved until the *Export to Blackboard* wizard is completed.
4. Enter a **question pool** or **test name**. You may also enter a description.
   - The *Question Pool Name* is the name displayed in Blackboard's Pool Manager. Choose a name that will be helpful to you in working with the questions. For example, you could use Chapter 1. The name can be a maximum of 244 characters.
   - The *Test Name* is the name displayed in Blackboard's Test Manager. This option is only be available when exporting from an ExamView test to Blackboard 7.1+ format. The name can be a maximum of 244 characters.
   - The *Description* is optional and allows you to provide additional information about the question pool or test.
5. Select the formatting and feedback options.
   - **HTML** - Maintains as much formatting as possible. Supports fonts, tables, images, etc.

> **NOTE**
> In most cases, you should use the HTML without default fonts option to simplify the HTML as much as possible without losing important formatting. However, due to several Blackboard limitations, there may be situations where one of the other three options would be more appropriate. For example, Blackboard 5.x allows a maximum of 4000 characters for each question. If your questions contain a lot of formatting, the HTML required to maintain the full formatting may exceed the 4000-character limit. In this case, the question is partially truncated when imported into Blackboard. If this happens, you can reduce the amount of HTML by choosing the second option (HTML without any fonts). If the question is slightly over the 4000-character limit, this will likely reduce the HTML so that it does not exceed Blackboard's limit.

- **HTML without any fonts** - Maintains all formatting except font and size settings. The font used to display each question will depend on the settings specified by Blackboard and/or your browser.
- **HTML without default fonts** - This is a combination of the first two options. With this option, ExamView does not set the initial font unless you set a new font other than the default font.
- **Text only** - Removes all formatting. Fonts, tables, images, etc. are not supported. Any content that appears inside of a table is not included. Use this option only if you have very simple questions with little or no formatting requirements.
- Select the appropriate Feedback option if your questions include rationales or feedback. Otherwise, select None.

6 Enter a directory (or folder) for the test/question bank images.

> **IMPORTANT**
> Make sure that the folder name is unique for this question pool. The Directory Name is used to store images that are required by questions in the test or question bank. The name you supply should be unique for the test or question bank you are exporting. If you use the same name for multiple tests or question banks, images may be overwritten when the file is imported into Blackboard. In this case, the questions in the existing question pool or quiz will show the wrong images. If you are exporting the same test or question bank multiple times, you can save space on your Blackboard server by using the same Directory Name for images each time you export. If none of the questions in your test/question bank contain images, the directory name you provide will be ignored. However, you must still supply a name.

Due to current limitations imposed by Blackboard, there is no way to delete image files from the Blackboard server once you have imported a question pool. The image files will persist on the server even after the question pool or quiz has been deleted.

7 Click **OK** to export the test/question bank.

Next Steps

As part of the export process, ExamView compresses all of the files into one ZIP file. This makes it easier to import the questions into your e-learning platform. The next step is to upload these questions into Blackboard.

Uploading Questions into Blackboard

To upload questions into Blackboard 6.0 - 8.0 or Blackboard 9.0 follow the steps below.

How to upload question into Blackboard 6.0 - 8.0...

1. Log in to your Blackboard server. The *My Institution* page appears.
2. Click the desired **course name** from the *My Courses* box. The *Courses* page appears.
   When you import the test or question pool, they will be associated with the course you choose here.
3. Click **Control Panel** from the *Tools* panel on the left. The *Control Panel* page appears.
4. Click the **Pool Manager** link for all Blackboard 6.0-7.0 files or for question banks exported to Blackboard 7.1-9.0 format, from the *Assessment* box. For tests exported to Blackboard 7.1-9.0 format, click the **Test Manager** link. The *Pool Manager* or *Test Manager* page appears.
5. Click **Import**. The *Pool Import* or *Test Import* page appears.
6. Click **Browse** to select the file.
7. Click **Submit**. If the import operation is successful, you will see a message that reads "Pool Import Completed for <course_id>."
8. Click **OK** to return to the *Pool Manager* or *Test Manager* screen. Your new question pool or test will now appear in the list.

How to upload question into Blackboard 9.0...

1. Open your Blackboard course.
2. Scroll down to the *Control Panel* section on the left, select the **Class Tools**, and then the **Test, Surveys, and Pools** option. The *Tests, Surveys, and Pools* page appears.
3. Click the **Tests** link on the *Tests, Surveys, and Pools* page. The *Tests* page is displayed.
4. Click **Import Test** on the *Tests* page, and the *Test Import* page is displayed.
5. Click **Browse for Local File** to select the file.
6. Once you have located and selected the test you wish to import, click **Open** to attach the file in Blackboard
7. When the selected file name is displayed on your Blackboard window, click **Submit**.
8. If the import operation is successful, Blackboard will display a *Test Import Complete* message.
9. Click **OK** to return to the *Test* page. Your new test appears in the list, and is ready to be deployed.

Creating a Quiz in Blackboard

Follow the normal procedures for creating a quiz or survey using the Blackboard Assessment Manager feature accessed via the *Control Panel*. Question pools that you import from ExamView can be used just like question pools you create directly with Blackboard.

For tests exported to Blackboard 7.1-9.0 format, the quiz or survey will already be imported as an assessment and will not require additional creation steps.

Blackboard Troubleshooting

If you have problems exporting/importing questions, refer to the information provided below. For the latest information regarding this export format go to the *Support* area on our website www.eInstruction.com.

The following information describes situations where content exported from ExamView may be modified to fit the constraints imposed by Blackboard.

- Blackboard does not support the concept of a narrative (a common piece of information shared by multiple questions). During export to Blackboard, ExamView copies the content of each narrative to every question that refers to the narrative.
- Each Matching question must have an answer choice. ExamView supports Matching questions that contain a picture or other content in place of individual answer choices. In this case, ExamView automatically creates choices named "choice a", "choice b", etc. for these Matching questions.

> **NOTE**
> An ExamView test may have up to 26 Matching questions, however, Blackboard only supports up to 20 Matching questions.

- Blackboard converts all ExamView tables to the Arial font.
- The question pool name does not support special characters such as em-dash or smart-quotes. These characters are translated to -- or " characters. Other special characters may be deleted.
- Once a question pool has been imported into Blackboard, any image files that were imported with the question pool remain on the Blackboard server even if you delete the question pool. This is a limitation in the current version of Blackboard. A system administrator with access to the file system can remove the image files by deleting all .jpg files in the following location:

  `/usr/local/blackboard/docs/courses/<id>/<course_id>/ppg/examview/<dir_name>` (Linux systems only)

Specific to the Blackboard 6.0 - 7.0 format only:

- Blackboard does not support uploading a quiz directly. Instead, you must export a test from ExamView, upload the questions, then reconstruct the quiz on the Blackboard server after importing the questions. Because of this limitation, question points do not get imported to Blackboard.
- Blackboard does not label Multiple Choice answer choices while ExamView uses the letters "a - e." Answers such as "both a and b" will be somewhat unclear when imported into Blackboard.
- Blackboard does not support question information fields (e.g., difficulty code, reference, keywords, etc.) Consequently, ExamView does not export the question information. Although Blackboard does allow quiz questions to be assigned point values, question pool questions do not have point values.

Brightspace

Using ExamView you can export tests and question banks to a format that can be brought into Brightspace (v.8.0-8.2). This feature gives you the flexibility to create questions in ExamView and then deliver them online via Brightspace.

ExamView does not yet offer a Brightspace-native export format. However, test and question bank questions can be uploaded to a Brightspace (v.8.0-8.2) LMS using another format already available.

This section covers the following topics:

Brightspace Question Support

The export feature maps ExamView question types to a the closest corresponding Brightspace (v.8.0-8.2) question format. A summary of the question type mapping (from the Blackboard 7.1-9.0 export) is shown in the table below.

ExamView Question Type	Equivalent Brightspace Question Type
True/False	True/False
Modified True/False	True/False
Multiple Choice	Multiple Choice
Bimodal	Multiple Choice
Multiple Response	Skipped
Yes/No	Multiple Choice
Numeric Response	Short Answer
Matching	Matching
Completion	Short Answer
Short Answer	Long Answer
Problem	Long Answer
Essay	Long Answer
Case	Long Answer
Other	Long Answer

Known Issues

- Multiple Response questions do not import into Brightspace and are skipped.
- Point values do not import into Brightspace. All questions import with a 1 pt. value.
- All questions import with no enumeration (e.g. A, B, C or 1, 2, 3) for answer choices.
- The Blackboard 7.1+ export workaround does not currently work for Brightspace v.8.3

Importing Question Content Into Brightspace

The following instructions require Brightspace v.8.0-8.2.

1. Create or open a test/question bank in ExamView.
2. Click **File** from the menu bar, mouse over **Export** and select **Blackboard 7.1-9.0**.
3. Select the **save location**, enter a **file name** and click **Save**. The question content will be saved as a ZIP file.
   - Take note of where the file is being saved as you will need to locate it later extract the question information.
   - Although a filename was entered, no file will actually be saved until the *Export to Blackboard* wizard is completed.
4. Complete the dialog options with any entry.
   These dialog options are not used by Brightspace but are required to complete the export process for Blackboard.
5. Click **OK** to complete the export. The questions and any images (including equations, which are converted to images) are compressed into a zip file.
6. From within your Brightspace (v.8.0-8.1) course, navigate to the *Content* page.
7. Click the **Import Course** link from the list of *Administration* options.
8. Be sure that the from a File radio button is selected then click **Browse** and locate the ExamView-generated zip file.
9. Click **Next** to initiate the import process.
10. Select the Question Library and/or Quiz components to be imported then click **Next** to continue the import process until completed.

Moodle

Using ExamView you can export tests and question banks to a format that can be brought into Moodle. This feature gives you the flexibility to create questions in ExamView and then deliver them online via Moodle.

ExamView does not yet offer a Moodle-native export format. However, test and question bank questions can be uploaded to a Moodle LMS using another format that is already available.

Because Moodle is an open source software package, it is continually evolving through its active community of contributing developers. It is recommended that your Moodle installation is updated to the most recent stable version. For the latest information regarding known issues, recommended workaround, and code fixes, check the *Using Moodle* forums at moodle.org. The forum for the Quiz module under the Moodle modules - help and discussion category is especially useful.

This section covers the following topics:

Moodle Question Support

The export feature maps ExamView question types to a the closest corresponding Moodle question format. A summary of the question type mapping (from the Blackboard 6.0-7.0 export) is shown in the table below.

ExamView Question Type	Equivalent Moodle Question Type
True/False	True/False
Modified True/False	True/False
Multiple Choice	Multiple Choice (Single Answer)
Bimodal	Multiple Choice (Single Answer)
Multiple Response	Multiple Choice (Multiple Answer)
Yes/No	True/False
Numeric Response	Short Answer
Matching	Matching
Completion	Short Answer
Short Answer	*Skipped* (maps to Essay in v.1.7+)
Problem	*Skipped* (maps to Essay in v.1.7+)
Essay	*Skipped* (maps to Essay in v.1.7+)
Case	*Skipped* (maps to Essay in v.1.7+)
Other	*Skipped* (maps to Essay in v.1.7+)

Known Issues

- Images (including equation and graphs converted to images) do not import into Moodle and must be uploaded and re-linked to the questions manually.

Importing Question Content Into Moodle

ExamView does not yet offer a Moodle-native export format. However, test and question bank questions can be uploaded to a Moodle LMS using another format that is already available.

1. Create or open a test/question bank in ExamView.
2. Click **File** from the menu bar, mouse over **Export** and select **Blackboard 6.0– 7.0**.
3. Select the **save location**, enter a **file name** and click **Save**. The question content will be saved as a ZIP file.
   - Take note of where the file is being saved as you will need to locate it later extract the question information.
   - Although a filename was entered, no file will actually be saved until the Export to Blackboard dialog is completed.
4. Complete the dialog options with any entry.
   These dialog options are not used by Moodle but are required to complete the export process for Blackboard.
5. Click **OK** to complete the export. The questions and any images (including equations, which are converted to images) are compressed into a zip file.
   Images must each be uploaded into Moodle and re-linked to the question separate from uploading the question content.
6. **Unzip** the file and **save** the extracted files.
7. From within your Moodle course, navigate to the **Edit questions** page within the *Quizzes* section.
8. Select a **Category** from the drop-down menu or create a new category by clicking **Edit categories**.
9. Click **Import questions from file** below the *Create new question* drop-down menu.
10. Select **Blackboard** from the *File format* drop-down menu.

> **IMPORTANT**
> Do not select either the ExamView or Blackboard V6+ options for the format.

11. Click **Browse** and navigate to the extracted files. Select the **res00000.dat** file to upload.
12. Click **Upload this file**.
13. A summary page of the imported questions appears. Click **Continue** to complete the import process.

WebCT

Using ExamView you can publish or export tests and question banks to WebCT. Publishing allows you to push content from ExamView directly to the server whereas exporting involves saving a file and uploading it to WebCT through the browser. These two options give you the flexibility to create tests in ExamView and then deliver them online via WebCT. You can also set up your e-learning platform to automatically store the test results into your online gradebook.

If you have problems exporting/uploading question content from ExamView Test Generator, see the *Known Issues* section for your specific WebCT platform or go to the *Support* area on our website www.eInstruction.com.

Web services for WebCT publishing were developed using the gSOAP library.

This section covers the following topics:

WebCT Question Support

The publish and export features map ExamView question types to a the closest corresponding WebCT question format. A summary of the question type mapping is shown in the table below.

ExamView Question Type	Equivalent ANGEL Question Type
True/False	Multiple Choice (Single Answer)
Modified True/False	Multiple Choice (Single Answer)
Multiple Choice	Multiple Choice (Single Answer)
Bimodal	Multiple Choice (Single Answer)
Multiple Response	Multiple Choice (Multiple Answer)
Yes/No	Multiple Choice (Single Answer)
Numeric Response	Short Answer
Matching	Matching
Completion	Short Answer
Short Answer	Paragraph (Manual Score)
Problem	Paragraph (Manual Score)
Essay	Paragraph (Manual Score)
Case	Paragraph (Manual Score)
Other	Paragraph (Manual Score)

A summary of ExamView question information supported when publishing or exporting to WebCT is shown below.

ExamView Question Information	Publish to WebCT	Export to WebCt
Rationale	General Feedback	General Feedback
Points	Points	Points
Difficulty	--	--
Reference	--	--
Learning Objective	--	--
National Standard	--	--
State Standard	--	--
Local Standard	--	--
Topic	--	--
Keywords	--	--
Miscellaneous	--	--
Notes	--	--

Known Issues

If you have problems exporting/importing questions, refer to the information below. For the latest information regarding the export utility go to the *Support* area on our website at www.einstruction.com.

The following information describes situations where content exported from ExamView may be modified to fit the constraints imposed by WebCT CE 6/Vista 4.

- Images, including equations and formulas, cannot be displayed in the General Feedback area.
- WebCT CE 6/Vista 4 does not support importing question items without also importing a quiz containing all the questions.
- WebCT CE 6/Vista 4 filters out the symbols "<", ">", and "&" from ExamView test/question bank titles. These symbols can be manually added back to the title from within the WebCT environment.
- WebCT CE 6/Vista 4 does not support the concept of a narrative (a common piece of information shared by multiple questions). During export to WebCT, ExamView copies the content of each narrative to every question that refers to it.
- Although ExamView supports Matching questions that contain just a picture or equation as an answer choice, Matching questions in WebCT CE 6/Vista 4 must contain some text. For choices consisting of just equations/images/graphs, add "Choice A", "Choice B", etc. labels in front of the graphics to distinguish the choices in the answer drop-down menu.
- Matching question scoring in WebCT CE 6/Vista 4 does not support specifying different scores for individual pairs of matches.
- Multiple Response questions with Partial Scoring will automatically be set to allow negative scores when imported into WebCT CE 6/Vista 4. If negative scores are not desired, you will need to manually change this setting for the question.

Publishing a Test/Bank to WebCT

1. Create or open a test/question bank in ExamView Test Generator.
   WebCT does not support all of the ExamView question types. For more information, see ***WebCT Question Support*** on page 178.
2. Click **File** from the menu bar, mouse over **Publish To** and select **WebCT CE 6/Vista 4**.

3 Select a **server profile** from the list or create a new profile.
If necessary, provide the username and password (this information can be automatically filled in by checking the Save username and password check box) then click the OK button.

4 Complete the publish options.
   a Select the **WebCT course** from the drop-down menu.

> **NOTE**
> If you do not see your course in the list, verify that the server and user account information is correct and active.

   b Select a **template** from the list of available templates for the course. If no template is available and by default, the template is set to "Blank."
   c Specify the question database where the questions will be saved.
      - **Create new category** - By default, this option is selected and the name of the category is the same as the assessment title. A new custom name can be specified.
      - **Add to existing category** - Select from a list of categories already existing in the selected course.

5 Complete the WebCT Assessment Settings (for tests only):
   a Enter a **title** for the content. By default, the ExamView test title will be used but a different title may be specified.
   b Select the assessment type for the published content. Choices include:
      - **Quiz** - A quiz is an online assessment that students complete and submit for marks. The marks are recorded in the WebCT Grade Book. You can use quizzes to assess Students performance in the course.
      - **Survey** - A survey is an online questionnaire that students complete and submit anonymously. A survey is not worth marks but will be recorded as "Complete" in the Grade Book after it is submitted. You can use surveys to allow students to give feedback or opinions.
      - **Self Test** - A self test is an online test that students complete and submit for marks so they can assess their understanding of course material. The marks are not recorded in the WebCT Grade Book.
   c Select the formatting option. The best option to choose will depend on the type of formatting required by the questions in your test or question bank. The three options are:
      - **HTML** - Maintains as much formatting as possible. Supports fonts, tables, images, etc.
      - **HTML without any fonts** - Maintains all formatting except font and size settings. The font used to display each question will depend on the settings specified by WebCT and/or your browser.
      - **HTML without default fonts** - This is a combination of the first two options. With this option, ExamView does not set the initial font unless you set a new font other than the default font.
   d Optionally, complete additional WebCT publishing settings by clicking **Settings**. For more information, see ***WebCT Advanced Publish Settings*** on page 182.

6 Click **OK**.

Setting Up and Managing WebCT Server Profiles

ExamView makes it easy to manage multiple WebCT servers or accounts through the use of server profiles. In addition to the server URL, server profiles can store login information by checking the Save username and password check box after a profile is created.

The first server profile will automatically be the default and the profile name will be appended with "(Default)" in the list. As additional profiles are added, a different default can be specified by highlighting the name and clicking the Set Default button. The default profile is automatically highlighted whenever the dialog opens.

1. Click **File** from the menu bar, mouse over **Publish To** and select **WebCT CE 6/Vista 3-4**.
2. Click **Add New**.
3. Enter a **Profile name** that will identify the profile in the list of WebCT servers. This name can be any name that you choose, its function is just a label for the profile.

> **TIP**
> Each server profile is associated with a specific username and password. Select a profile name that is meaningful and easily recognized to distinguish it from other servers or user accounts.

4. Enter the **WebCT URL** by pasting in the described address from the browser into the text box.

> **IMPORTANT**
> The URL for this text box should be pasted in from the server's My WebCT page, not the log in page. To do this, open a browser window, navigate to the desired WebCT server, and log into the account. The My WebCT page appears immediately following submitting the login information. Copy this URL and paste it into the text box in ExamView.

5. Click **OK**. The profile is created if the supplied URL is validated as an WebCT server.

> **IMPORTANT**
> Because the server must be validated in order to continue, an internet connection must be available to create the profile even though nothing is being published to the server at this time.

6. To modify the server information, select the **profile name** and click **Edit**.
7. To delete a profile, select the **profile name** and click **Remove**.

Exporting a Test/Question Bank for WebCT

Question banks or tests can be exported to a Blackboard-formatted file for import into the LMS.

How to export a test/question bank for WebCT...

1. Create or open a test/question bank in ExamView Test Generator.
   WebCT does not support all of the ExamView question types. For more information, see ***WebCT Question Support*** on page 178.
2. Click **File** from the menu bar, mouse over **Export** and select **WebCT CE 6/ Vista 4**.
3. Set the location where you want to save the exported file.
4. Enter a **file name** and click **Save**.
   The file does is not created and saved until the next step is completed. The file will be saved as a ZIP file.
5. Complete the export dialog options:
   a. Enter a **category name** for the content.
      WebCT uses the category name to perform operations on groups of questions (e.g., view all questions in a category, delete all questions in a category, etc.). Choose a category name that will be helpful to you in working with the questions. For example, you could use Chapter 1 for the category name. In turn, you could easily locate

questions for a chapter. You could also include a course or book title as part of the category name to further identify the questions.

b Select the formatting options. The best option to choose will depend on the type of formatting required by the questions in your test or question bank. The three options are:
   - **HTML** - Maintains as much formatting as possible. Supports fonts, tables, images, etc.
   - **HTML without any fonts** - Maintains all formatting except font and size settings. The font used to display each question will depend on the settings specified by WebCT and/or your browser.
   - **HTML without default fonts** - This is a combination of the first two options. With this option, ExamView does not set the initial font unless you set a new font other than the default font.

6 Click **OK** to export your test/question bank.

Next Steps

As part of the export process, ExamView compresses all of the files into one ZIP file. This makes it easier to import the questions into your e-learning platform. The next step is to upload and unzip these questions into the WebCT server.

Uploading and Unzipping Files Into WebCT CE 6/Vista 4

1 Log in to your WebCT course.
2 From the *Create* tab, click on the icon or the **Manage Course** link below *Designer Tools*.
3 Click the icon or **Import** option.
4 Navigate to the **ZIP file** and click **Open**.
5 Click **Return** when the *Content Import Progress* shows that importing is complete.
The ZIP file is automatically unzipped in the import process. Importing either a test or a question bank generates a quiz and adds the question items to the question database.
6 To access the quiz on WebCT CE 6/Vista 4:
   a Click the **Assessments** link below *Course Tools*.
   b Use the **menu icon** following the title to open the *ActionLinks* menu for that particular item.
   c Click **Go to Question Database** from the *Assessments* screen.

WebCT Advanced Publish Settings

ExamView allows you to set additional, advanced WebCT settings when publishing from the Test Builder. Not all settings are available, depending on the assessment type (Quiz, Survey, or Self Test) is selected. Left unchanged, the default values shown for each setting will be transmitted along with the question content.

Delivery Settings

Setting Name	Default	Description
Deliver Questions	All at once	This setting specifies how questions will be delivered.
Display question titles	[checked]	Determines whether the question title is displayed when the quiz is delivered.

Setting Name	Default	Description
Number of allowed attempts	1	Specifies the number of attempts a student is allowed to take the quiz. Number can be set to a value from 1 to 5 or set to Unlimited.
Attempt used for student grade	First	If more than 1 attempt is allowed, this setting specifies whether the student receives their First, Last, Highest, or Average score for the quiz.
Minimum period between attempts	0 Minute(s)	If more than 1 attempt is allowed, this setting determines the length of time and units (Minutes, Hours, Days) that the student must wait before making another attempt.

Results Settings

Setting Name	Default	Description
Student Scores	Do not release the score	This setting specifies if and when the score will be released to the student.
Results Displayed to Student	[all checked]	Checkbox options specify what results are displayed to the student.
E-mail Address	[blank]	Enter the e-mail address to which you want student results to be sent.

Submission Settings

Setting Name	Default	Description
Submission Message	[blank]	The message that students will receive when they submit a quiz.
E-mail Address	[blank]	Enter the email address to which you want student submissions to be sent.

Security Settings

Setting Name	Default	Description
Password	[blank]	Enter a password that students must enter in order to access the quiz.
IP Address	0, 0, 0, 0	Enter values for an IP address if you want to restrict access to an assessment to machines that match the all or part of an IP address. The IP address mask automatically updates when the IP values are modified.

Navigating the Software

This section covers the following topics:

Editing Commands and Keyboard Shortcuts

While editing/entering text

Action	PC	Mac
delete one character to the left	Backspace	Delete
delete one character to the right	Delete	Del
delete one word to the left	Ctrl + Backspace	Ctrl + Delete
begin a new paragraph	Enter	Return
insert a tab character in a table cell	Ctrl + Tab	Ctrl + Tab
cut selected text or picture	Ctrl + X or Ctrl + Delete	Cmd + X
copy selection to Clipboard	Ctrl + C or Ctrl + Insert	Cmd + C
paste Clipboard contents	Ctrl + V or Shift + Insert	Cmd + V
undo last action	Ctrl + Z or Alt + Backspace	Cmd + Z
enter non-breaking space	Alt+0160	Option + Spacebar
special characters	Alt+0000	---

To format text

Action	PC	Mac
turn bold on/off	Ctrl + B	Cmd + B
turn italic on/off	Ctrl + I	Cmd + I
turn underline on/off	Ctrl + U	Cmd + U
superscript on/off	Ctrl + H	---
subscript on/off	Ctrl + L	---
plain text	Ctrl + T	Cmd+ T

To enter foreign language characters

Character	PC	Mac
à è ì ò ù À È Ì Ò Ù	Ctrl + ` (ACCENT GRAVE), the letter	Option + ` (ACCENT GRAVE), the letter
á é í ó ú Á É Í Ó Ú	Ctrl +' (APOSTROPHE), the letter	Option + E, the letter
â ê î ô û Â Ê Î Ô Û	Ctrl + ^ (CARET), the letter	Option + I, the letter
ã õ ñ Ã Õ Ñ	Ctrl + ~ (TILDE), the letter	Option + N, the letter
ä ë ï ö ü ÿ Ä Ë Ï Ö Ü	Ctrl + : (COLON), the letter	Option + U, the letter
å, Å	Ctrl + @, a or A	Option + a or A
æ, Æ	Ctrl + &, a or A	Option + ' (APOSTROPHE) or " (QUOTE)
œ, Œ	Ctrl + &, o or O	Option + q or Q
ç, Ç	Ctrl + ' (APOSTROPHE), c or C	Option+ c or C
ð, Ð	Ctrl + ' (APOSTROPHE), d or D	---
ø, Ø	Ctrl + / (BACK SLASH), o or O	Option + o or O
¿	Alt + Ctrl + ?	Option + ?
¡	Alt + Ctrl + !	Option + !
ß	Ctrl + &, s	Option + S

Navigate Within a Question, Answer, or Narrative

To scroll within a question, answer, or narrative using the mouse

To do this...	Do this...
Scroll up one line	Click the up arrow ▲ on the scroll bar.
Scroll down one line	Click the down arrow ▼ on the scroll bar.
Scroll up a screen	Click above the scroll box.
Scroll down a screen	Click below the scroll box.
Scroll in a document	Click on the scroll bar thumb ≡ and drag it up or down.

To move the insertion point using the keyboard

To move...	Press this... (PC)	Press this... (Mac)
one character right	► (right arrow)	► (right arrow)
one character left	◄ (left arrow)	◄ (left arrow)

To move...	Press this... (PC)	Press this... (Mac)
end of a word	Ctrl + ► (right arrow)	Ctrl + ► (right arrow)
beginning of a word	Ctrl + ◄ (left arrow)	Ctrl + ◄ (left arrow)
end of line	End	End
last line	Ctrl + End	Cmd + End
beginning of line	Home	Home
first line	Ctrl + Home	Cmd + Home
down one line	▼ (down arrow)	▼ (down arrow)
up one line	▲ (up arrow)	▲ (up arrow)
down one screen	Page Down	Page Down
up one screen	Page Up	Page Up
question	Alt + Q	Ctrl + Q
answer	Alt + A	Ctrl + A

Select Text and Pictures

To select text or a picture using the mouse

To select...	Do this...
any text	Position the mouse pointer at the beginning of a text block and click and hold down the primary mouse button as you drag over the text you want to select.
graphic/picture	Click the graphic/picture to resize it, adjust the baseline or delete it.
word	Double-click the word.
paragraph	Position the mouse anywhere in the paragraph you want to select and click the mouse button quickly three times.
block of text	Click at the beginning of the text block, move the mouse pointer to the end of the text block, hold down the Shift key, and click the mouse button again.

To select text using the keyboard

Position the cursor (insertion point) at the beginning of the text that you want to select. Press the keys shown below to select text or to extend the selection area.

To select...	Press this...
one character to right	► (right arrow)
one character to left	◄ (left arrow)
end of a word	Shift + Ctrl + ► (right arrow)
beginning of a word	Shift + Ctrl + ◄ (left arrow)
end of line	Shift + End

To select...	Press this...
beginning of line	Shift + Home
down one line	Shift + ▼ (down arrow)
up one line	Shift + ▲ (up arrow)
down one screen	Shift + Page Down
up one screen	Shift + Page Up
all	Ctrl + A

Selecting Items in a Table

To select items in a table using the mouse

To select...	Do this...
any text	Position the mouse pointer at the beginning of a text block and click and hold down the mouse button as you drag over the text you want to select.
single cell	Click next to the left edge of a cell.
single column	Position the mouse pointer just above the top of the column you want to select. When the insertion point cursor changes to a down arrow cursor, click the mouse button once.
single row	Position the mouse pointer just left of the row you want to select. When the insertion point cursor changes to an arrow cursor, click the mouse button once. Or, move the cursor next to the left edge of any cell in the row and double-click.
entire table	Move the mouse point next to the left edge of any cell and triple-click.
multiple cells	Click next to the left edge of a cell and hold down the mouse button while you drag the mouse to select the desired cells.
multiple columns	Move the mouse pointer to just above the top of the first column. When the insertion point cursor changes to a down arrow cursor, hold down the mouse button and drag to select the desired columns.
multiple rows	Move the mouse pointer to the left of the first row, hold down the mouse button, and drag to select the desired rows.

To select items in a table using menu commands

To select...	Do this...
single row	Position the cursor (insertion point) anywhere in the row you want to select. Click Table from the menu bar and select Select Row.
single column	Move the cursor to the column you want to select. Click Table from the menu bar and select Select Column.
entire table	Locate the cursor anywhere in the table you want to select. Click Table from the menu bar and select Select Table.

Navigate Within a Test or Question Bank

To scroll a test/question bank using the mouse

To do this...	Do this...
Scroll up one line	Click the up arrow ▲ on the scroll bar.
Scroll down one line	Click the down arrow ▼ on the scroll bar.
Scroll up one screen	Click above the scroll box.
Scroll down one screen	Click below the scroll box.
Scroll in a test/bank	Click on the scroll bar thumb ≡ and drag it up or down.
Scroll to the left	Click the up arrow ◄ on the scroll bar.
Scroll to the right	Click the down arrow ► on the scroll bar.

To identify (select) an item on a test or in a question bank

To highlight...	Press...
any item	Position the mouse pointer on an item displayed in a test or question bank (question, answer, narrative, title, or instruction) and click the primary mouse button once.
next item	▼ (down arrow)
previous item	▲ (up arrow)
first item	Home
last item	End
item on next screen	Page Down
item on previous screen	Page Up

TIP
To edit an item on a test or in a question bank, highlight (select) the item and then click Edit at the bottom of the window. As a shortcut, you can double-click an item.

Troubleshooting Tips

If you experience problems using ExamView Test Generator, refer to the list of troubleshooting tips listed below. The tips include frequently asked questions along with helpful hints to solve your problem. If you do not find a solution to your problem, contact the technical support or contact the publisher or company who provided you the software.

Before calling for assistance, please record the exact steps that cause the problem. If there are any error messages, write down the exact wording. Also, be prepared to provide the product title, part number/ISBN (if any), and the operating system version.

ExamView Test Builder/Question Bank Editor

Question banks do not appear in the QuickTest Wizard or Question Bank Selection list.

After selecting either the *QuickTest Wizard* or the *Select Question Bank* command, click the Browse (folder) button and identify the folder that contains the question bank files.

The question banks for your text should be installed in their own folder inside another folder called banks. Both of these folders are located in the program folder (e.g., c:\examview\banks\science or c:\examview\banks\history). The question bank folder name is usually based on the textbook title, author's name, or subject area. (Question bank files have a BNK extension.)

When importing a test (exported from ExamView Test Generator as an RTF file) into a word processor, the formatting is not exactly as it appeared in ExamView Test Generator.

There are several different versions of the RTF specification. The files exported by ExamView Test Generator are optimized to be imported by Microsoft Word 6.0 (or a more recent version). After you import a file, you can change the format as needed using the features of the host application.

Copying/pasting between certain question types (i.e., multiple choice, matching) does not seem to work properly.

You cannot use the standard Copy/Paste commands to copy the question and answer choices from one multiple choice question and paste them into another multiple choice question. ExamView Test Generator uses a special table format for the choices. This is also true for matching questions. Or, you can use the Duplicate command in the Question menu to make a copy of a matching or multiple choice question.

The formatting or layout of a question does not seem appropriate.

Choose to edit the question. If the ruler is not displayed, turn it on. Then, click in the paragraph you want to check. Look at the ruler to see if there are any extra tab characters or the indent is set improperly. Make adjustments to the ruler layout as needed.

With a table on the first line of a question, there does not seem to be a way to insert text before the table.

If you have a table on the first line of a question, move the insertion point with the arrow keys to the beginning of the first cell in the table. Then, press the ENTER key to insert a blank line before the table.

The page number does not show in the footer.

Some printers have a smaller printable area than what is standard. In these cases, the page number may print off the bottom edge of the printable area. You can change the footer (first page and subsequent pages) to adjust for this problem. Choose to edit the footer and then enter a carriage return after the page number placeholder. If this does not work, try two carriage returns after the page number.

An indent or tab cannot be set to 0 (zero).

If you paste text from another application, ExamView Test Generator may use the indent and tab positions from the source

copy. If you try to adjust a tab or an indent using the ruler command, you may not be able to set it to the exact position desired since ExamView Test Generator allows you to move tabs/indents in 1/8-inch increments only. If this occurs, use the Tabs and/or Paragraph options to make the necessary adjustments. Using these options, you can change the tab/indent settings in 1/16-inch increments.

A picture does not look good on the screen—the colors are not correct.

Pictures come in many different formats—black and white, 16-colors, 256-colors, and millions of colors. If your monitor is set to display images in 256-colors and you insert a picture with millions of colors, the program may not be able to show the image correctly. For best results and the smallest file sizes, you should use 256-colors images or black and white pictures. If you double-click a picture, the window will show you the format and memory size.

ExamView Test Player

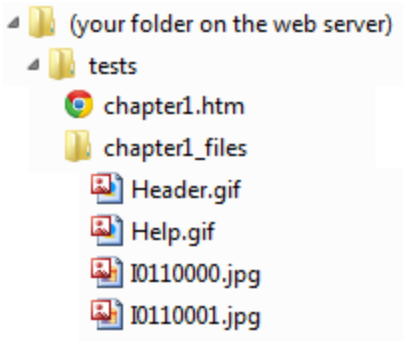
Multimedia objects (movies, animations, or audio) do not play.

ExamView Test Generator does not store the multimedia objects as part of the test file. You must copy these objects to the same folder as the online test or let your students know where they can find these items (e.g., CD-ROM or DVD drive).

Internet Testing

When you open a test using a browser, the pictures do not appear.

When you post a test to a server, you must copy the HTM file along with all of the other files in the accompanying file folder (e.g., chapter1.htm and chapter1_files) to your web server. Do not combine the HTM file and its folder in one location. See the sample server folder structure below. All of these files must be in the same relative path on the server as the HTM file. Also, make sure that you did not change the case of the file names for the JPG and GIF files. By default, the test/study guide is looking for these files as lowercase file names. For some operating systems this is not important, but for others it can cause problems. Make sure that your students did not turn off images in the browser. You must have this feature enabled to properly view an internet test generated by ExamView Test Generator.



The browser displays an error when a student submits their results for an Internet test.

A student must have an active connection to the internet to submit the test results. The browser requires an active connection for the browser to e-mail you the student's results.

The test or study guide is not formatted properly in the browser window.

Students must use a browser with support for cascading style sheets level 1 (CSS1) and JavaScript. However, if you create a question with special formatting (e.g, numerous tab stops, indents, etc.) the browser may not be capable of showing some of these more complicated layouts. For example, you should use a table instead of tabs since CSS1 does not support tab positioning.

Contact Us

For additional help, contact Turning Technologies Technical Support.

Technical Support is available from 8 a.m. - 9 p.m. EST.

From within the contiguous United States, you can reach Technical Support toll-free by calling 866.746.3015. If you are calling from outside of the United States, please call +1 330.746.3015.

Technical Support may also be reached via e-mail at support@turningtechnologies.com .

We want to hear from you! To submit a product enhancement request, visit us at http://www.turningtechnologies.com/product-enhancement-request-form.

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