

## ACTIVITY IA8.2: Sum of the Century

**Intended learning:** To use informal strategies to add a list of 1-digit and 2-digit numbers.

**Instructional mode:** Longer, inquiry mode for individuals or groups.

**Materials:** Writing materials, a single set of digit cards 1–7 for each group.

**Description:** Introduce the idea. *Make some numerals with your digit cards, enough to use all seven cards. For example, I have made: 17, 25, 34 and 6. Write these numbers on the board. Now add the numbers together. I get ... 34 plus 6 is 40 [jot down 40], plus 25 is 65 [jot down 65], plus 17 is 82 ... 80 ... 82. Write the answer 82. Students calculate their totals, and report them. Try a different arrangement of digit cards. Initiate discussion of students' computation strategies, including how they are jotting down subtotals.*

Now pose the problem. *Can you make a list of numbers using the seven digit cards that have a sum of exactly 100?* Support students to find solutions through their own cooperative inquiry, and to reflect on their problem-solving strategies.

**Responses, variations and extensions:**

- Some students will do the calculations mentally. Some will find informal jotting helpful. Some may use column computation strategies.
- Support students to keep their written work clear and organized.
- Solutions can be found by trial and error. Insight into the problem involves paying attention to the place value of the digits. Record some solutions on the board, with each list written in vertical format. In each case, the sum of the tens is 80 and the sum of the ones is 20. By organizing the digits in tens and ones, other solutions can be readily produced, namely, any list of numbers with the tens digits as: 1 and 7; 1, 2 and 5; 1, 3 and 4; 2 and 6; or 3 and 5.