(Continued)

b) What are the degrees of freedom?

A: $df$ = Number of categories − 1

$= 2 - 1$

$= 1$

c) What are the observed frequencies for each category?

A: 450 for small dogs; 550 for large dogs

d) What are the expected frequencies for each category?

A: 500 for both sizes of dogs

e) What is the test statistic?

A: $\chi^2 = 10$

f) What is the critical value?

A: 3.84

g) Is the test statistic statistically significant?

A: Because our test statistic of 10 exceeds the critical value of 3.841 our result is statistically significant. In plain English, it appears that more large dogs than small dogs end up at the shelter.

h) Write this result in APA style.

A: A $\chi^2$ goodness-of-fit test revealed that more large dogs than small dogs tended to end up in a shelter, $\chi^2$ (1, $N = 1000$) = 10.00, $p < .05$.