CHAPTER TEST

Find the mean, median, mode, range, and standard deviation of the given data set and of the data set obtained by performing the given transformation.

1. 41, 38, 42, 41, 45, 44, 48, 35; multiply each data value by 3

2. 16, 21, 19, 21, 17, 25, 15, 18; add 14 to each data value

3. 108, 92, 102, 99, 116, 92; multiply each data value by 4.5

A normal distribution has a mean of 72 and a standard deviation of 5. Find the probability that a randomly selected x-value from the distribution is in the given interval.

4. Between 67 and 77   5. Between 57 and 72   6. At least 62

Find the margin of error for a survey that has the given sample size. Round your answer to the nearest tenth of a percent.

7. 340   8. 8125   9. 931   10. 1560

11. **FOOTBALL** Teams in the National Football League are divided into two conferences, the American Football Conference (AFC) and the National Football Conference (NFC). The table below shows the margin of victory in each conference's championship game for the 1990–2004 seasons.

AFC Championship margins of victory	NFC Championship margins of victory
48, 3, 19, 17, 4, 4, 14, 3, 13, 19, 13, 7, 17, 10, 14	2, 31, 10, 17, 10, 11, 17, 13, 3, 5, 41, 5, 17, 11, 17

a. Find the mean, median, mode, range, and standard deviation of the AFC margins of victory.

b. Find the mean, median, mode, range, and standard deviation of the NFC margins of victory.

c. *Compare* the statistics for each set of data and make a conclusion about the data.

12. **TEST SCORES** The scores on a standardized test administered to 10,000 students have a mean of 50 and a standard deviation of 10. Find the z-score for each student whose score is given.

a. Kevin: 55   b. Manuel: 70   c. Colby: 40   d. Neal: 47

13. **SHOPPING SURVEY** In a survey of 1600 U.S. adults, 61% said that they have purchased a product online. Find the margin of error for the survey. Then give an interval that is likely to contain the exact percent of all U.S. adults who have purchased a product online.

14. **TYPING ERRORS** The table shows the average number y of errors made by students in a typing course when they took tests given x days after the start of the course. Use a graphing calculator to find a model for the data.

x	2	10	14	21	30	45	63	70	91
y	45.2	36.1	30.2	23.1	18.7	11.0	5.6	4.3	2.4