

11 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.

- 41, 38, 42, 41, 45, 44, 48, 35; multiply each data value by 3
41.75, 41.5, 41, 13, about 3.8; about 125.3, 124.5, 123, 39, about 11.4
- 16, 21, 19, 21, 17, 25, 15, 18; add 14 to each data value
19, 18.5, 21, 10, about 3.0; 33, 32.5, 35, 10, about 3.0
- 108, 92, 102, 99, 116, 92; multiply each data value by 4.5
101.5, 100.5, 92, 24, about 8.6; about 456.8, about 452.3, 414, 108, about 38.7

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.

- Between 67 and 77 **0.68**
- Between 57 and 72 **0.4985**
- At least 62 **0.9765**

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

- 340 **$\pm 5.4\%$**
- 8125 **$\pm 1.1\%$**
- 931 **$\pm 3.3\%$**
- 1560 **$\pm 2.5\%$**

- 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

- Find the mean, median, mode, range, and standard deviation of the AFC margins of victory. **about 13.7; 13; 3, 4, 13, 14, 17, 19; 45; about 10.7**
 - Find the mean, median, mode, range, and standard deviation of the NFC margins of victory. **14, 11, 17, 39, about 10.1**
 - Compare the statistics for each set of data and make a conclusion about the data. **Sample answer: The data is very similar except the margin of victory for the NFC is slightly more spread out.**
- 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.
 - Kevin: 55 **0.5**
 - Manuel: 70 **2**
 - Colby: 40 **-1**
 - Neal: 47 **-0.3**
 - 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. **$\pm 2.5\%$; between 58.5% and 63.5%**
 - 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. **Sample answer: $y = 48.9(0.967)^x$**

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

Additional Resources

Assessment Book

- Chapter Test, Levels A, B, C, pp. 156–161
- Standardized Chapter Test, pp. 162–163
- SAT/ACT Chapter Test, pp. 164–165
- Alternative Assessment, pp. 166–167

Test Generator CD-ROM

Chapter Test

Easily-readable reduced copies (with answers) of Chapter Test B, the Standardized Chapter Test, and the Alternative Assessment from the Assessment Book can be found on pp. 742E–742F.