

Chapter 11

11.1 Find the mean, median, mode, range, and standard deviation of the data set.

1. 5, 5, 6, 9, 11, 12, 14, 16, 16, 16
2. 16, 18, 29, 30, 34, 35, 35, 38, 46
3. -4, -3, -3, 4, 1, 0, 0, -3, -2, 10, 11
4. 1.7, 2.2, 1.8, 3.0, 0.4, 1.2, 2.8, 2.9
5. 4.5, 5.7, 4.3, 6.9, -2.1, 5.7, -1.2, 3.8
6. -7.2, 3.9, 2.6, -9.1, 2.5, -7.2, 3.9, -7.2

11.2 Find the mean, median, mode, range, and standard deviation of the given data set and of the data set obtained by adding the given constant to each data value.

7. 33, 36, 36, 39, 49, 56; constant: 2
8. 10, 12, 14, 16, 16, 18, 19; constant: -1

11.2 Find the mean, median, mode, range, and standard deviation of the given data set and of the data set obtained by multiplying each data value by the given constant.

9. -2, -2, 5, 4, 2, -2, 8, 3; constant: 1.5
10. 52, 52, 76, 56, 67, 89, 70; constant: 3

11.3 A normal distribution has a mean of 2.7 and a standard deviation of 0.3. Find the probability that a randomly selected x -value from the distribution is in the given interval.

11. Between 2.4 and 2.7
12. At least 3.0
13. At most 2.1

11.4 Identify the type of sample described. Then tell if the sample is biased. *Explain your reasoning.*

14. The owner of a movie rental store wants to know how often her customers rent movies. She asks every tenth customer how many movies the customer rents each month.
15. A school wants to consult parents about updating its attendance policy. Each student is sent home with a survey for a parent to complete. The school uses only surveys that are returned within one week.

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

16. 100
17. 600
18. 2900
19. 5000

11.4 Find the sample size required to achieve the given margin of error. Round your answer to the nearest whole number.

20. $\pm 1\%$
21. $\pm 2\%$
22. $\pm 5.5\%$
23. $\pm 6.2\%$

11.5 Use a graphing calculator to find a model for the data. Then graph the model and the data in the same coordinate plane.

24.

| | | | | | | | | |
|-----|-----|----|---|----|----|----|----|----|
| x | 0 | 2 | 4 | 6 | 8 | 10 | 12 | 14 |
| y | -10 | -3 | 4 | 10 | 14 | 20 | 21 | 36 |

25.

| | | | | | | | | |
|-----|-----|-----|-----|---|---|----|----|-----|
| x | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 |
| y | 0.5 | 0.8 | 1.1 | 3 | 9 | 30 | 90 | 280 |