9. (a)

Three-Day Moving Average

Stock Price ($) vs Day — Stock Price, Moving Average

Three-Day Moving Average Forecast
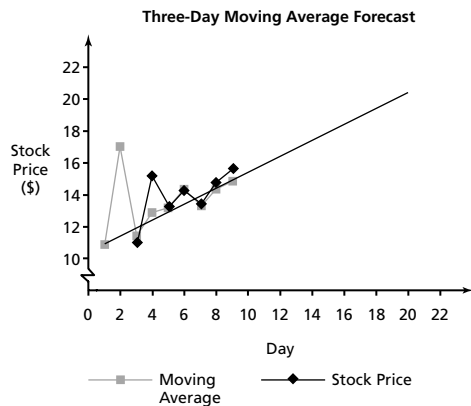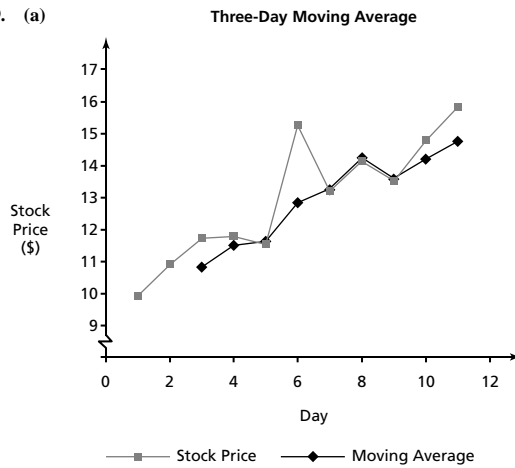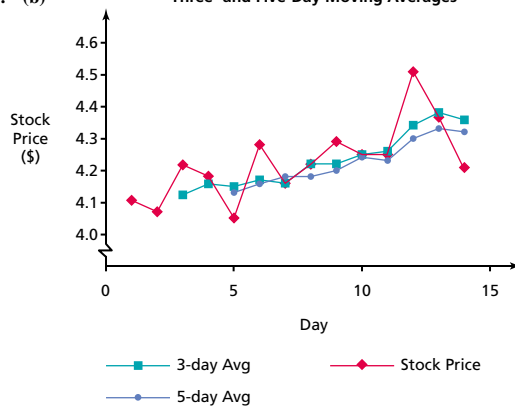
Stock Price ($) vs Day — Moving Average, Stock Price

(b) Another 11 days

(c) On most days

(d) Increase the 3-day moving average

11. (b)

Three- and Five-Day Moving Averages

Stock Price ($) vs Day — 3-day Avg, Stock Price, 5-day Avg

(c) The 5-day moving average is lower.

Chapter 3 Wrap-Up, page 199

1. Answers may vary. For example:

    (a) 3   **(b)** 2   **(c)** 20
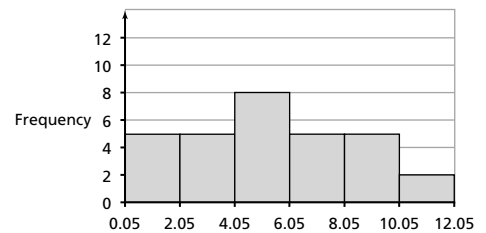
2. Answers may vary. For example:

(a)

Class	Tally	Frequency
3.5–6.5	I	1
6.5–9.5	II	2
9.5–12.5	HHT I	6
12.5–15.5	HHT HHT HHT	15
15.5–18.5	IIII	4
18.5–21.5	I	1

Frequency histogram, 3.5 to 21.5
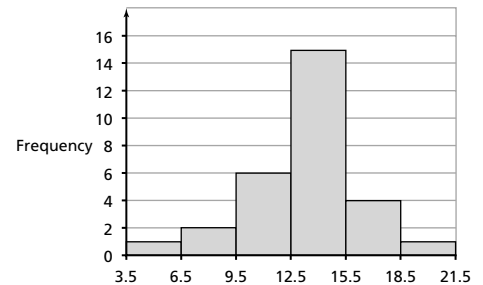
(b)

Class	Tally	Frequency
0.05–2.05	HHT	5
2.05–4.05	HHT	5
4.05–6.05	HHT III	8
6.05–8.05	HHT	5
8.05–10.05	HHT	5
10.05–12.05	II	2

Frequency histogram, 0.05 to 12.05

(c)
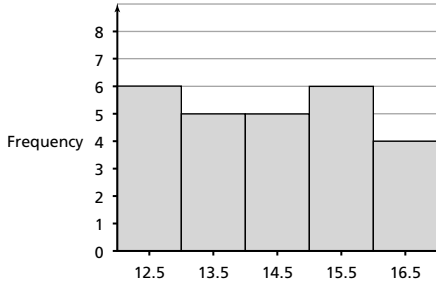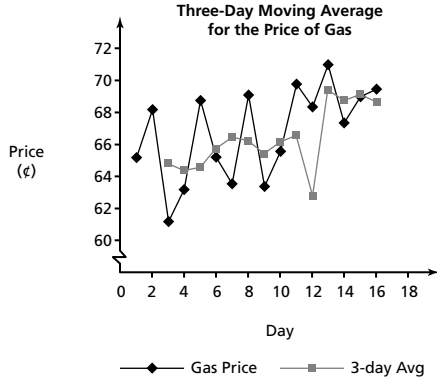
Class	Tally	Frequency
88.5–108.5	III	3
108.5–128.5	HHT	5
128.5–148.5	HHT HHT I	11
148.5–168.5	HHT HHT	10
168.5–188.5		0
188.5–208.5	I	1

Frequency histogram, 88.5 to 208.5
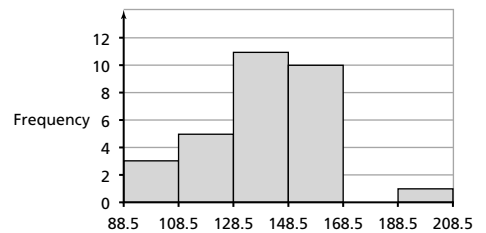
3. (a) mean: 13.3, median: 14, mode: 14; median

    (b) mean: 5.2, median: 4.9, mode: 4.7; median

    (c) mean: 140.7, median: 143, mode: 145; median

4. (a) mean: 7.82, median: 5–9, modal interval: 0–4

    (b) median

5. (a) Antonia ($\bar{x} = 12.9$, $\sigma = 2.29$), Jamil ($\bar{x} = 12.4$, $\sigma = 2.8$); Antonia is more effective.
(b) Antonia
6. (a) 84.9%   **(b)** 26.4%

Chapter 3 Test, page 200

1.

2. (a) Min: mean: 146.18, median: 140, mode: NA; Jan: mean: 219.64, median: 222, mode: NA; Gigi: mean: 189.45, median: 177, mode: NA
(b) Min: Q1 = 130, Q2 = 140, Q3 = 174, IQR = 44, standard deviation: 25.07; Jan: Q1 = 203; Q2 = 222, Q3 = 243, IQR = 40, standard deviation: 27.95; Gigi: Q1 = 160, Q2 = 177, Q3 = 212, IQR = 52, standard deviation: 28.27
(c) Min: 6, 11, 11; Jan: 7, 10, 11; Gigi: 9, 11, 11
3. Marnie can assume donations will be within 3 standard deviations of the mean; $30–$120
4. 21.19%
**5.** 6.11 years
6.

7. Sakic (178.0), Weight (133.2), Thornton (129.4), Iginla (114.4), Kariya (104.0)

Chapter 4

4.1 Exercises, page 209

1. (a) Toss a coin 10 times and record the number of times 7 or more heads occurs. Answers may vary; for example, 0.172.
(b) Roll a die and record the number of times 1 occurs. Answers may vary; for example, 0.167.
2. (a) Answers may vary; for example, 0.0769.
(b) (i) the particular card chosen
(ii) Answers may vary; for example, 50.
(iii) drawing a queen from the deck

3. (b) (i) Answers may vary; for example, 10; 5; 0.5; 20, 11; 0.55; 30, 15, 0.5, …, 100, 50, 0.5
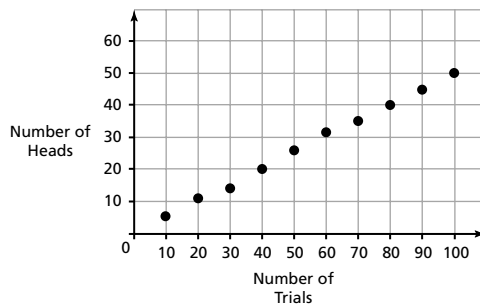
(ii) tossing a coin
(iii) the coin turns up heads
(iv) The probability gets closer to 0.5.
4. (a) Answers may vary; for example, 0.501. Answer depends on the length of the shaft of the tack, roundness of the top, and diameter of the shaft.
(b) 0.499   **(c)** 251
5. (a) Toss 10 coins and record the number of times at least 5 heads occurs and the total number of trials.
(c) Answers may vary; for example, 0.6230.
6. (a) Answers may vary; for example, 0.5.
(b) Answers may vary; for example, 0.0619.
7. (a) Answers may vary; for example, 0.0769.
(b) Answers may vary; for example, 0.0010.
8. Make a spinner with 5 equal sectors of angle 72º, labelled A, B, C, D, E. Spin 5 times, recording the outcome and compare to the correct given answers.
9. (a) Let 0 represent a head and let 1 represent a tail.
(b) $\frac{1}{9}$
(c) Increase the number of trials in the experiment.
(d) Let 0 represent a male and let 1 represent a female.
(e) You can do more trials if needed.
10. Make a spinner with sector angles 72º and 288º. The larger sector represents a field goal. Answers may vary; for example, 0.0102.
11. Make a spinner with sector angles 36º and 324º. The smaller sector represents a defective keyboard. Answers may vary; for example, 0.0204.
12. (a) Make a spinner with sector angles 108º and 252º. The larger sector represents a seat belt wearer. Answers may vary; for example, 0.0306.
(b) no
13. Roll a die and record how many rolls it takes to get all 6 numbers. Create a spreadsheet of random integers 1 to 6. How many rows until you have all numbers 1 to 6? Answers may vary; for example, 23.
14. Create a spreadsheet of 3 random integers 1 to 3. Let 1 represent a green light. How many rows have no 1? Answers may vary; for example, 0.1406.

4.2 Exercises, page 218

1. (a) 7 of diamonds
(b) ace of spades, ace of hearts, ace of clubs, ace of diamonds
(c) 2, 3, 4, 5, 6, 7, 8, 9, 10 of clubs
(d) 2, 4, 6, 8, 10 of clubs, diamonds, hearts, or spades
2. (a) only (a)
(b) (a) $\frac{1}{52}$ (b) $\frac{1}{13}$ (c) $\frac{9}{52}$ (d) $\frac{5}{13}$
3. (a) 5   **(b)** $\frac{3}{5}$ **(c)** $\frac{2}{5}$ **(d)** 0