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. [Graph showing frequency distribution]

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. 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

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