Part 4.6 Answers

1a. We are given three pieces of information, the minimum sales (a) is $20 million, and the maximum sales (b) would be $60 million, and the most likely amount (c) is $30 million. Therefore a triangular distribution is best.
1b. 0.0625
1c. 0.75

2a. We are given three pieces of information, the minimum length (a) is 40 minutes, and the maximum time (b) would be 60 minutes, and the most likely time (c) is 55 minutes. Therefore a triangular distribution is best.
2b. 0.333 (3sf)
2c. 0.917 (3sf)

3a. We are given three pieces of information, the minimum length (a) is 8 hours, and the maximum time (b) would be 13 hours, and the most likely time (c) is 10 hours. Therefore a triangular distribution is best.
3b. 0.267 (3sf)
3c. 0.733 (3sf)

4a. We are given three pieces of information, the minimum calories (a) is 1100, and the maximum calories (b) would be 2500, and the most likely calories (c) is 2000. Therefore a triangular distribution is best.
4b. 0.127 (3sf)
4c. 0.0571 (3sf)
4d. $\sigma = 290$, $\mu = 1870$
4e. 2240 calories (3sf)

5a. We are given three pieces of information, the minimum price (a) is $10, and the maximum price (b) would be $25, and the most likely price (c) is $19.50. Therefore a triangular distribution is best.
5b. 0.194 (3sf)
5c. 0.274 (3sf)
5d. $15.40 (3sf)

6a. We are given three pieces of information, the minimum length (a) is 8cm, and the maximum length (b) would be 19cm, and the most likely length (c) is 15cm. Therefore a triangular distribution is best.
6b. 0.0519 (3sf)
6c. 9.96 cm and 17.5cm (3sf)

7. The data is continuous, has a very distinct minimum, and is definitely skewed to the right. Because the data is continuous a uniform, triangular or normal distribution would be best. Because the data is skewed to the right, and has a very clear peak, a triangular distribution would be best. The minimum value (a) would be $100,000, the maximum value (b) would be $190,000 and the modal or most likely value (c) would be $135,000.