
Part 5.4 Answers

1a. We are given three pieces of information, the minimum age (a) is 3 years (so $a=2.5$), and the maximum age (b) would be 40 years (so $b=40.5$), and the most likely age (c) is 28 years. Therefore a triangular distribution is best.

1b. 0.211 (3sf)

1c. 0.298 (3sf)

1d. 0.491 (3sf)

1e. 30 years or over

2a. 0.0606 (3sf)

2b. 0.00440 (3sf)

2c. 0.926 (3sf)

2d. 0.179 (3sf)

2e. 23 mL or less

3a. We only have two pieces of information, the maximum length (b) is 3.2m ($b=3.25$), and the minimum length (a) would be 1.4m ($a=1.35$). Therefore a uniform distribution is best.

3b. 0.632 (3sf)

3c. 0.0526 (3sf)

3d. 0.0526 (3sf)

3e. 3m or longer

4a. We are given three pieces of information, the minimum time (a) is 0:22 (so $a=21.5$ seconds), and the maximum age (b) would be 14:48 (so $b=888.5$ seconds), and the most likely time (c) is 3:27 (so $c=207$). Therefore a triangular distribution is best.

4b. 0.843 (3sf)

4c. 0.413 (3sf)

4d. $0.1404 \times 1800 = 253$ songs

4e. 148 seconds or less (2:28 or less)