

Unit 1 *Probability of One Event*

Text Answers

1.1 Probabilities

1. (a) 0 (b) about 250 (c) about 250
2. (a) 50 (b) 50 (c) 0
3. (a) Impossible (b) Unlikely (c) Likely or Unlikely
(d) Likely or Unlikely (e) Unlikely (f) Likely (g) Likely
5. (a) 10 (b) 20 (c) 1000 (d) 600
6. About 900
7. (a) about 1500 (b) about 250
8. (a) 50 (b) 50 (c) 25 (d) 25

1.2 Straightforward Probability

1. (a) 0.1 (b) $\frac{1}{4}$ (c) $\frac{1}{2}$ (d) $\frac{4}{5}$
2. (a) 0.2 (b) 0.4
3. 0.98
4. $\frac{4}{5}$
5. (a) $\frac{4}{7}$ (b) not to rain
6. 0.99
7. (a) $\frac{2}{5}$ (b) 12
8. (a) 0.6 (b) 0.9 (c) 0.1
9. (a) $\frac{9}{20}$ (b) $\frac{10}{11}$ (c) $\frac{9}{13}$
10. No ; there are other eye colours
11. 0.15
12. (a) *C* (b) *B*
13. (a) near to 0 (b) near to 1

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1.3 Finding Probabilities Using Relative Frequency

4. $\frac{1}{4}$

5. (a) $\frac{4}{5}$

6. (a) $\frac{2}{7}, \frac{7}{10}, \frac{1}{4}, \frac{1}{5}, \frac{1}{3}, \frac{2}{3}$ (b) Andrew (c) Rachel (d) Connor

7. (a) $\frac{3}{8}$ (b) $\frac{5}{12}$ (c) $\frac{5}{24}$

8. (a) $\frac{4}{5}$ (b) 96

1.4 Determining Probabilities

1. (a) $\frac{1}{4}$ (b) $\frac{1}{4}$ (c) $\frac{1}{13}$ (d) $\frac{1}{13}$ (e) $\frac{4}{13}$

2. (a) $\frac{13}{54}$ (b) $\frac{13}{54}$ (c) $\frac{2}{27}$ (d) $\frac{2}{27}$ (e) $\frac{8}{27}$

3. (a) $\frac{1}{6}$ (b) $\frac{1}{6}$ (c) $\frac{1}{2}$ (d) $\frac{1}{2}$

4. (a) $\frac{1}{8}$ (b) $\frac{1}{8}$ (c) $\frac{1}{2}$ (d) $\frac{5}{8}$ (e) $\frac{1}{4}$

5. $\frac{3}{8}$

6. (a) $\frac{2}{5}$ (b) $\frac{4}{5}$ (c) $\frac{1}{5}$ (d) $\frac{4}{5}$ (e) $\frac{9}{49}$ (f) $\frac{39}{49}$ (g) $\frac{10}{49}$

7. (a) $\frac{9}{25}$ (b) $\frac{6}{25}$ (c) $\frac{3}{5}$ (d) $\frac{16}{25}$

8. (a) $\frac{1}{5}$ (b) $\frac{1}{5}$ (c) $\frac{3}{5}$ (d) $\frac{4}{5}$

9. (a) $\frac{2}{5}$ (b) $\frac{1}{5}$ (c) $\frac{1}{5}$

10. (a) $\frac{3}{10}$ (b) $\frac{2}{9}$ (c) $\frac{1}{8}$ (d) $\frac{3}{8}$

11. (a) $\frac{7}{30}$ (b) $\frac{23}{30}$

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1.4

12. (a) $\frac{1}{2}$ (b) $\frac{1}{6}$

13. (a) $\frac{1}{200}$ (b) 20

14. (a) $\frac{3}{10}$ (b) $\frac{4}{5}$

15. (a) Mint (b) $p(\text{mint}) = \frac{2}{3}$, $p(\text{toffee}) = \frac{1}{4}$, $p(\text{pen}) = \frac{1}{12}$ (c) $\frac{1}{12}$ (d) 0