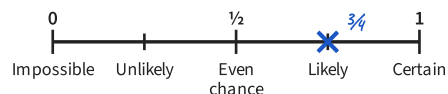


1 Single events

A jar holds 4 lemon, 5 lime and 3 cherry sweets. One is taken at random.

- a) Find $P(\text{lime})$.
b) Mark $P(\text{not cherry})$ on the scale.



a) $\frac{5}{12}$ b) $\frac{9}{12} = \frac{3}{4}$

2 Probabilities that add to 1

A bead is taken at random from a bag. White and black are equally likely.

- a) Find $P(\text{white})$.
b) Find $P(\text{not grey})$.

Colour	Pink	Grey	White	Black
Probability	0.3	0.24	0.23	0.23

a) $1 - 0.54 = 0.46$, $0.46 \div 2 = 0.23$
b) $1 - 0.24 = 0.76$

3 Relative frequency

Jo and Ali flip the same bottle. It can land upright.

- a) Use Jo's results to estimate $P(\text{upright})$.
b) Whose estimate is better? Give it.

	Flips	Upright
Jo	80	12
Ali	500	70

a) $12 \div 80 = 0.15$
b) Ali's, more flips: 0.14

4 Expected outcomes

- a) The probability that a battery is faulty is 0.04. How many of 450 batteries would you expect to be faulty?
b) A fair dice is rolled 150 times. How many times would you expect a number greater than 4?

a) $0.04 \times 450 = 18$
b) $\frac{2}{6} \times 150 = 50$

5 Sample space diagrams

Spinners X and Y are spun. The score is the difference between the two numbers.

- a) Complete the table.
b) Find $P(\text{the score is less than 2})$.

		Y			
		1	3	5	6
X	1	0	2	4	5
	2	1	1	3	4
	4	3	1	1	2

b) $\frac{5}{12}$

Probability

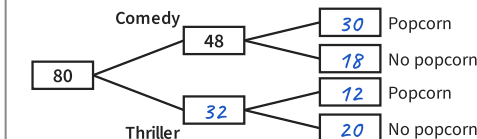
revision mat answers

Foundation A

6 Frequency trees

80 people saw a film. 30 comedy fans and 12 thriller fans bought popcorn.

- a) Complete the frequency tree.
b) Find $P(\text{bought popcorn})$.



b) $\frac{42}{80} = \frac{21}{40}$

7 Two way tables

60 people each chose one class.

- a) Complete the table.
b) A teen is picked at random. Find $P(\text{boxing})$.

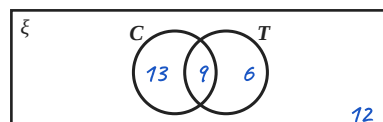
	Yoga	Spin	Boxing	Total
Adult	14	12	9	35
Teen	6	11	8	25
Total	20	23	17	60

b) $\frac{8}{25}$

8 Venn diagrams

40 people in a café: 22 ordered cake (C), 15 ordered tea (T) and 9 ordered both.

- a) Complete the Venn diagram.
b) Find $P(C \cap T)$.



b) $\frac{13}{40}$

9 The AND and OR rules

A biased dice lands on 6 with probability 0.3 and on 1 with probability 0.15

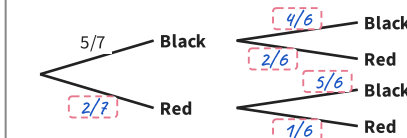
- a) It is rolled once. Find $P(6 \text{ or } 1)$.
b) It is rolled twice. Find $P(6 \text{ both times})$.

a) $0.3 + 0.15 = 0.45$
b) $0.3 \times 0.3 = 0.09$

10 Tree diagrams

Sara takes two pens at random, without replacement, from 5 black and 2 red.

- a) Complete the tree diagram.
b) Find $P(\text{both are black})$.



b) $\frac{5}{7} \times \frac{4}{6} = \frac{20}{42} = \frac{10}{21}$