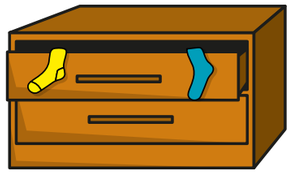
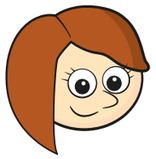
Know that the sum of probabilities of all possible outcomes is 1

1 A drawer contains some yellow and blue socks.



Rosie removes a sock at random.

The probability that the sock is yellow is $\frac{3}{5}$



This means that there are only 5 socks in the drawer.

a) Do you agree with Rosie? No

Explain your answer.

It just means 3 out of every 5 socks are yellow.

b) What is the probability of getting a blue sock?

$\frac{2}{5}$

2 A bag contains strawberry and lime sweets.

Kim chooses a sweet at random.

The probability that Kim chooses a strawberry sweet is 0.7

What is the probability that Kim chooses a lime sweet?

0·3

3 A box contains 12 coloured counters.

- 5 of the counters are pink.
- 3 of the counters are blue.
- The rest of the counters are green.

A counter is removed from the box at random.

What is the probability that the counter is green?

$\frac{1}{3}$

4 A spinner has three coloured sections: red, green and orange.

The table shows the probability of getting each colour.

Colour	red	green	orange
Probability	0.2	0.5	

a) What is the probability of getting red or green?

0·7

b) What is the probability of getting orange?

0·3

5 The probability that a train arrives on time is 0.56

What is the probability that the train is late?

Show your workings.

0·44

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6 There are three exits from a roundabout.

The probability that a particular car takes a certain exit is shown in the table.

Exit	exit 1	exit 2	exit 3
Probability	0.54	0.27	

Find the probability that a car takes exit 3

0·19

7 A spinner has some numbered sections.

The probability of getting a particular number is shown in the table.

Number	1	2	3	4	5
Probability	0.17		0.51	0.02	0.1

The spinner is spun once.

Find the probability of spinning:

a) the number 2

0·2

b) an odd number

0·78

c) a number greater than 2

0·63

8 The probability that a biased coin lands on heads is 0.72

What is the probability that the coin lands on tails?

0·28

9 Some letter cards are placed in a box.

Each card is labelled A, B or C.

The probability of getting each letter is shown in the table.

Letter	A	B	C
Probability	$\frac{1}{5}$	$\frac{3}{10}$	

Find the probability of getting a C.

$\frac{1}{2}$

10 The probability that the Spencer family will go on holiday is 0.05

What is the probability that the Spencer family will **not** go on holiday?

0·95

11 Alex has a box of coloured pencils.

The pencils are brown, green or red.

She takes a pencil from the box at random.

The probability that Alex takes out a brown pencil is $\frac{3}{8}$

The probability that she takes out a green pencil is $\frac{7}{12}$

Find the probability that Alex takes out a red pencil.

$\frac{1}{24}$

12 Ron plays a game. He can either win or lose the game.

Ron is 4 times more likely to lose the game than win the game.

What is the probability that he wins the game?

$\frac{1}{5}$

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