
Challenge 1

Jane is standing in a queue.

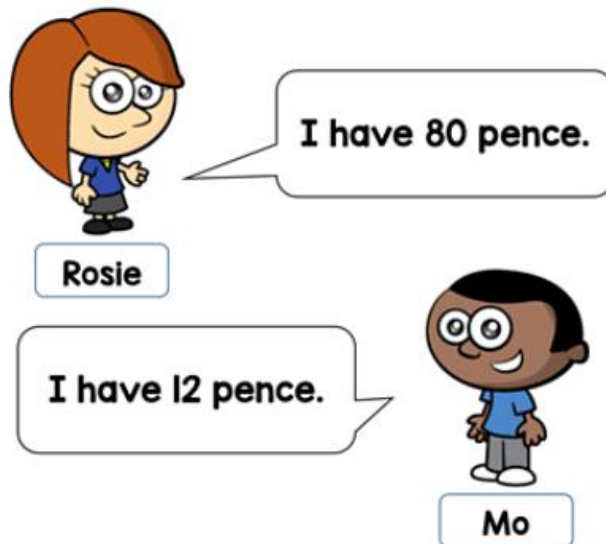
There are 5 people in front of her.

There are 2 people behind her.

How many people are in the queue?



Challenge 2



Rosie gives Mo 25 pence.

How much more money does Rosie have than Mo now?

Challenge 3

If

$$70 + \text{yellow circle} = 100$$

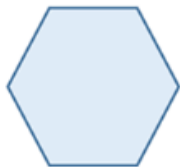
$$50 + \text{green triangle} = 100$$

$$\text{yellow circle} + \text{green triangle} + \text{blue square} = 100$$

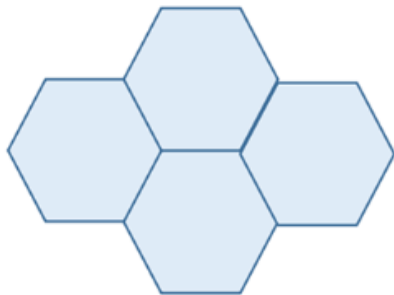
What is the value of the blue square?

Challenge 4

The perimeter of this regular hexagon is 42 cm.



Four of these hexagons are put together to make this shape.



What is the perimeter of the shape?

Challenge 5

Charlie has a tin of paint.

The tin is half full and weighs 5.8 kg. Charlie paints a wall in his house.



The tin is now a quarter full and weighs 3.1 kg.

How much does the empty tin weigh?

Challenge 6

A spinner has 5 equal sections. The sections are labelled A to E.



The arrow is pointing to the centre of section A.

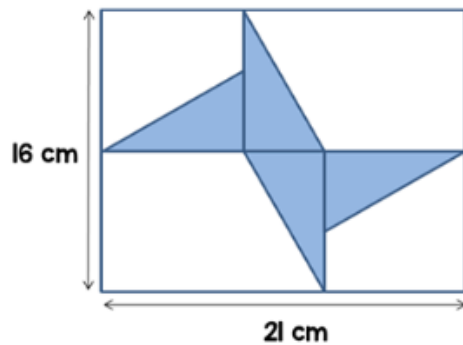


Tom rotates the arrow clockwise so that the arrow is now pointing to the centre of section D.

What angle has the arrow been rotated through?

Challenge 7

4 congruent triangles are shown inside a rectangle.



What is the area of one of the triangles?

Challenge 8

Chloe has some money.

She spends $\frac{1}{4}$ on a book.

She spends $\frac{5}{12}$ on some headphones.

She spends the rest on this toaster.



How much does the book cost?

Challenge 9

Annie drives between two towns at an average speed of 40 mph.

Tariq drives between the same two towns on the same route at an average speed of 25 mph.

Annie leaves the first town at 9 am and arrives at the second town at 10:30 am.

If Tariq sets off at the same time, what time does he arrive at the second town?

Challenge 10

Ron has two strips of paper.

The strips of paper are the same length.



Ron cuts the first strip into two pieces.



Piece A is 32 cm long.

Ron then cuts the second strip into two pieces.



Piece C is 9 cm shorter than piece A.

Piece D is 15% longer than piece B.

What is the length of one of the original strips of paper?

As a rough guide of difficulty level:

- **Challenge 1 and 2** are suitable for ages 5 to 7.
- **Challenge 3 to 6** are suitable for ages 7 to 11.
- **Challenge 7 to 10** are suitable for ages 11 to 15.

We want everyone to get involved with challenge day, so work together to solve as many as you can and share your solutions!

