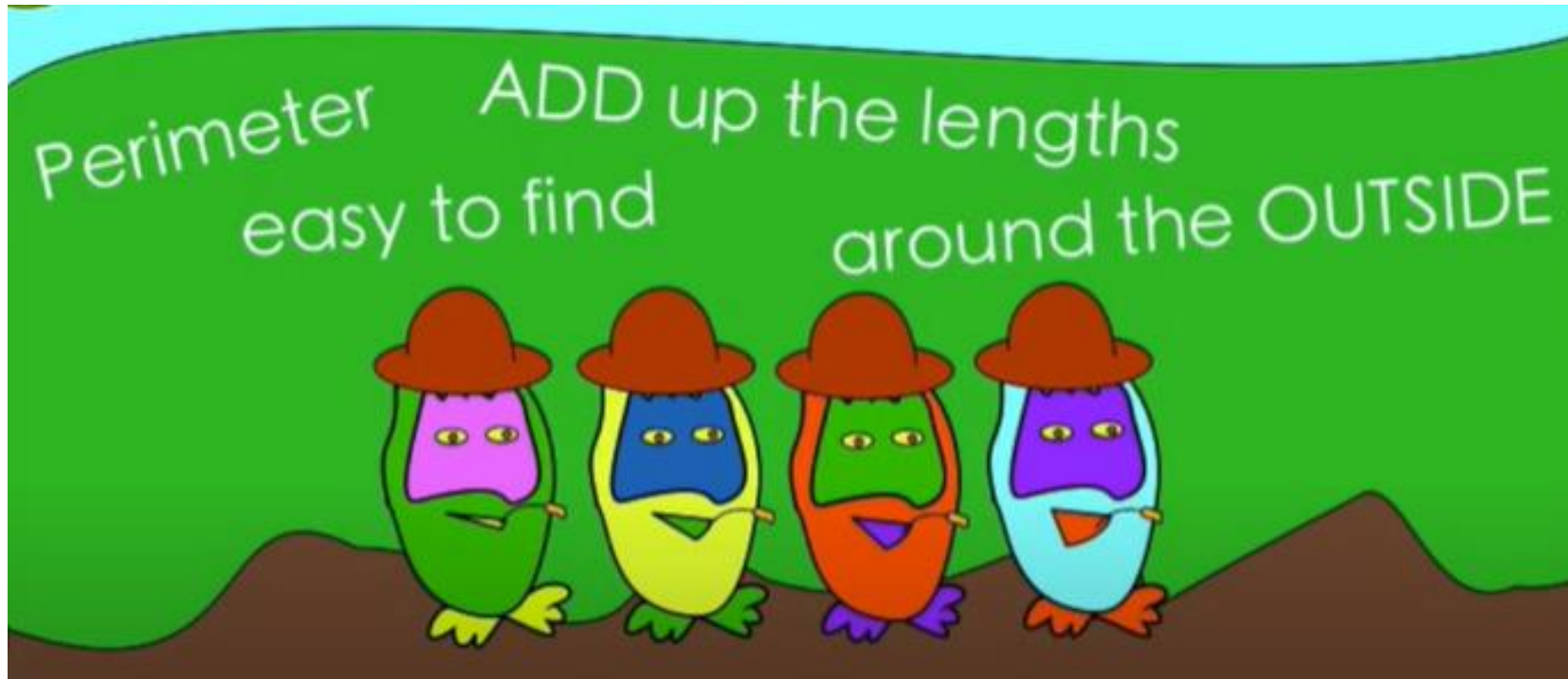


Year 4 Maths

Calculating the perimeter of rectilinear shapes

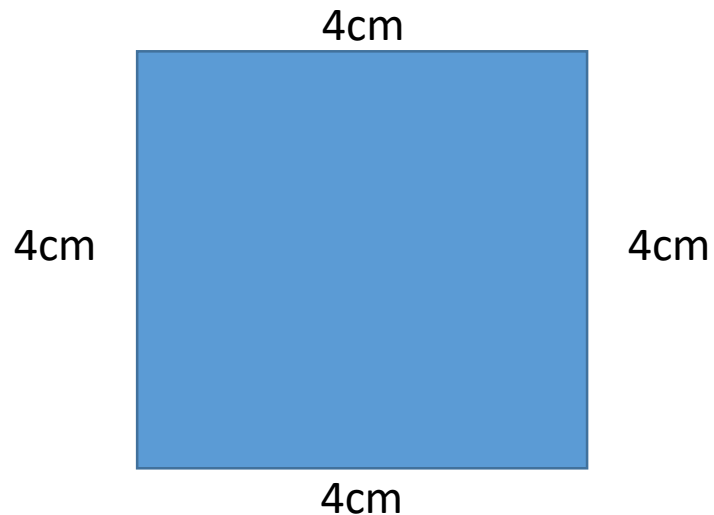
What is the perimeter of a shape?

Click this link for a funky song!



So, how do you find the perimeter?

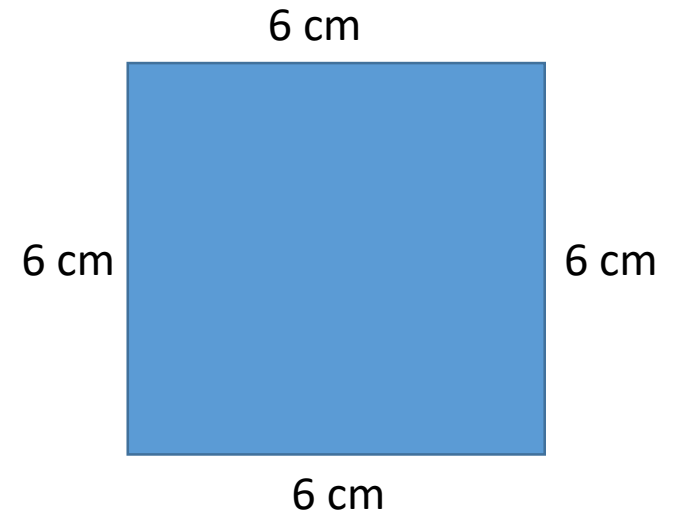
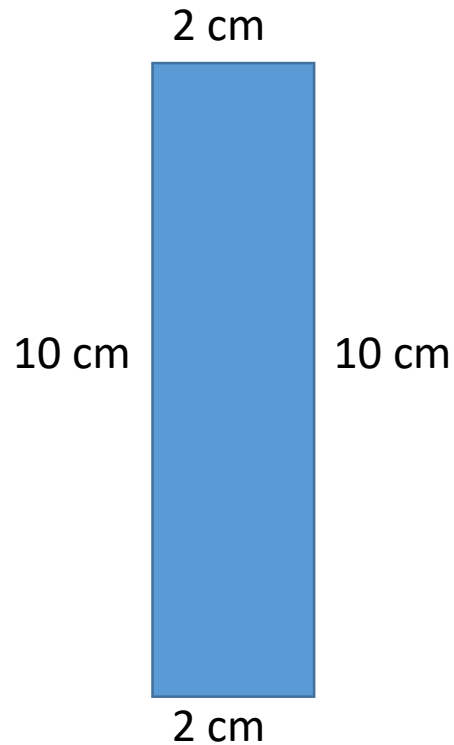
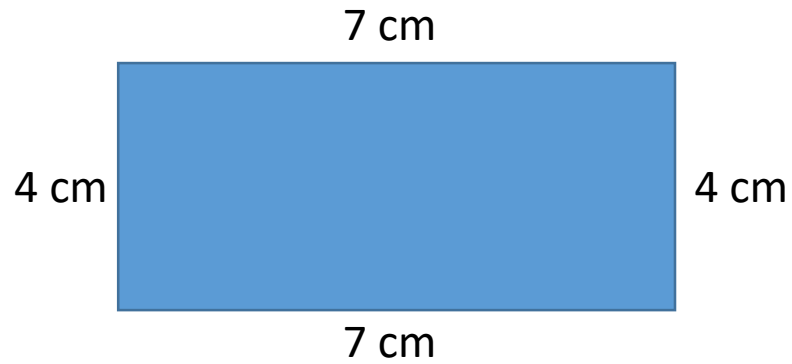
You add up the lengths around the outside of the shape!



So, to find the perimeter of this square, I would need to add up the lengths of all of the sides.

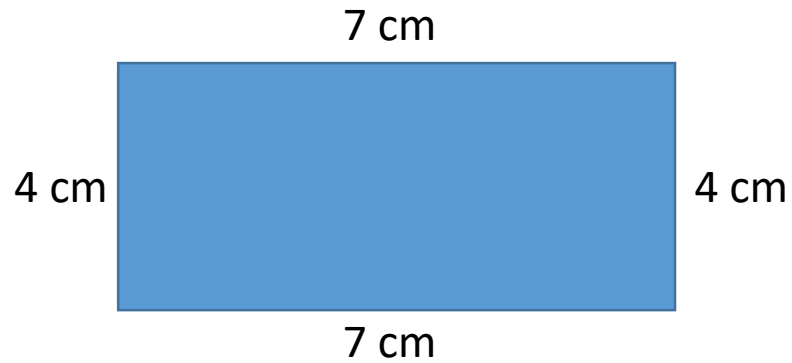
$$4\text{cm} + 4\text{cm} + 4\text{cm} + 4\text{cm} = 16\text{cm}$$

Can you find the perimeter of these shapes*?

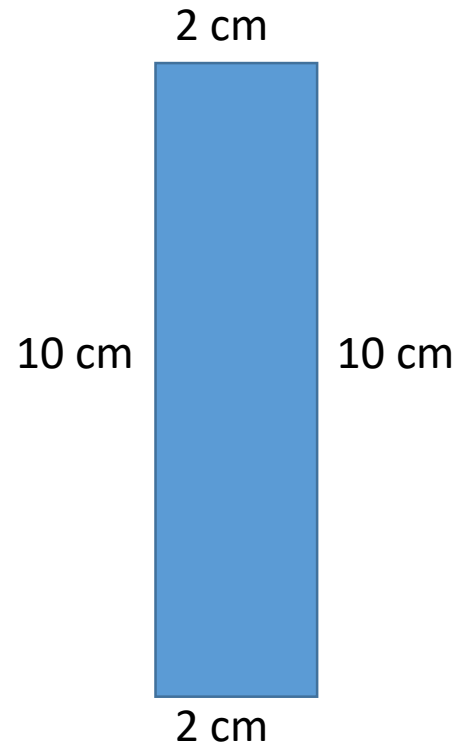


*not drawn to scale!

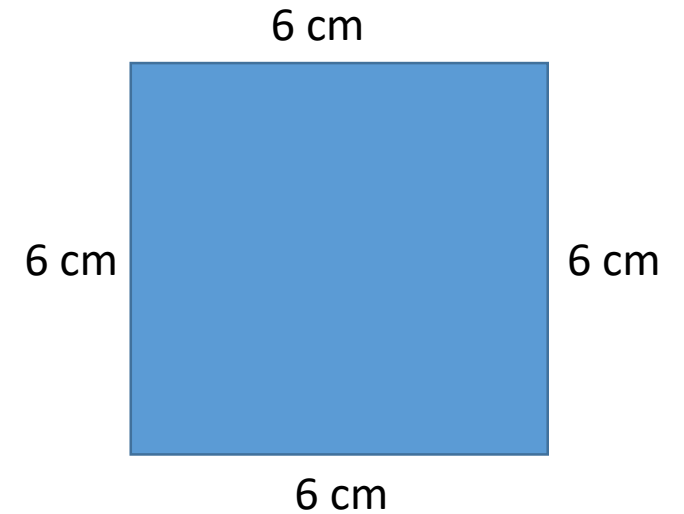
Can you find the perimeter of these shapes?



$$7 + 7 + 4 + 4 = 22\text{cm}$$

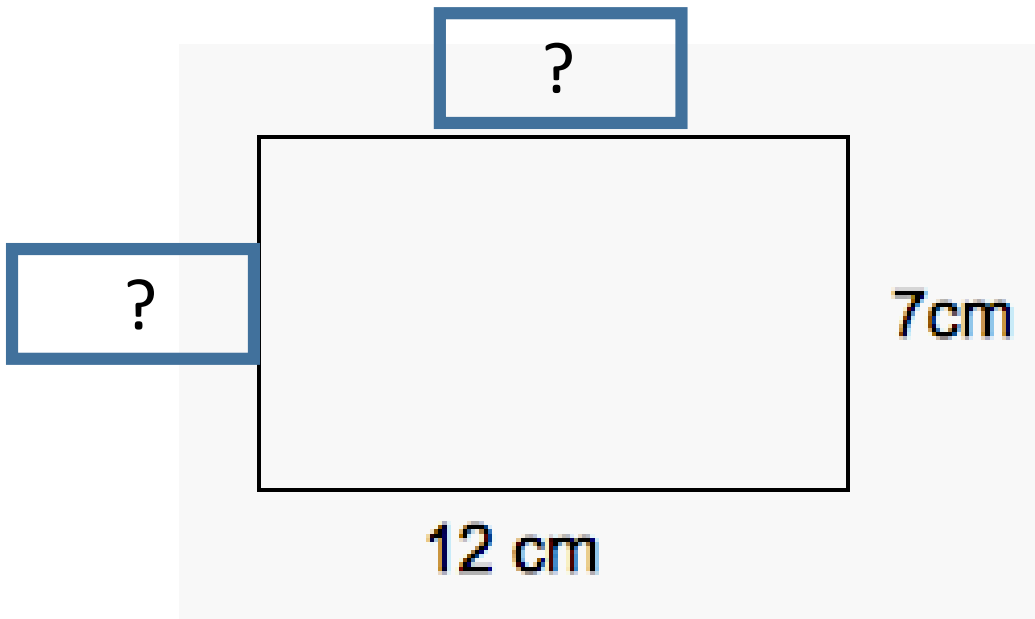


$$10 + 10 + 2 + 2 = 24\text{cm}$$



$$6 + 6 + 6 + 6 = 24\text{cm}$$

Sometimes all of the lengths aren't marked on the shape.





How can our previous maths learning help us here?

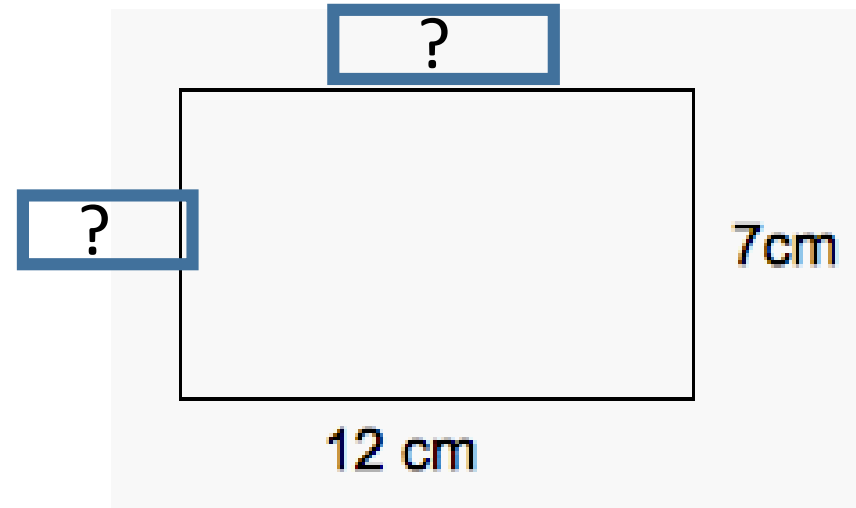


Day 1

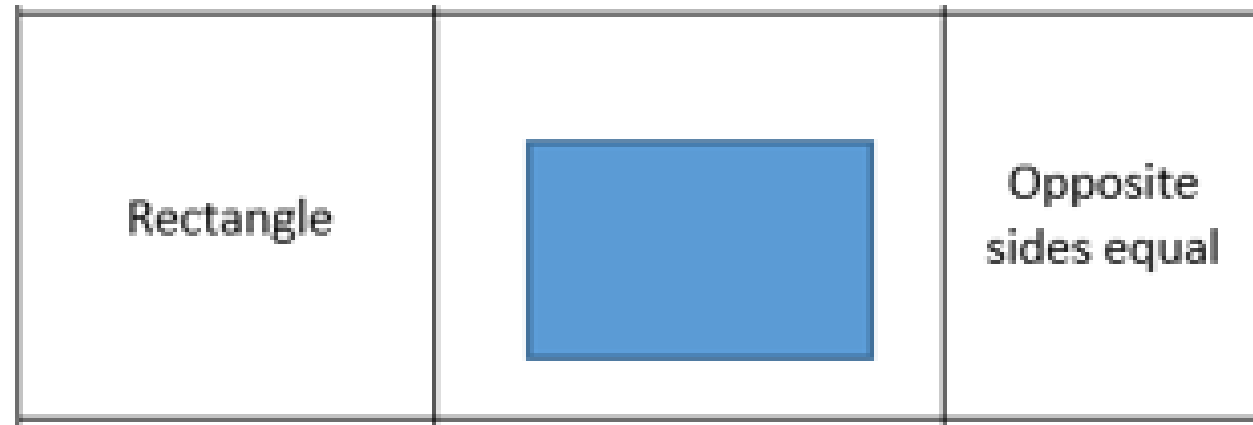


Square		4 sides the same length	4 right angles	2 pairs of parallel sides	4 lines of symmetry
Rectangle		Opposite sides equal	4 right angles	2 pairs of parallel sides	2 lines of symmetry

Using this list of properties of 2D shapes, I can work out the missing sides before I add them together to find the perimeter!



Day 1



So, I know the missing sides are the same length as it's opposite side! Now I can find my answer!

$$12 + 12 + 7 + 7 = 38\text{cm}$$

Now have a go at Day 1 tasks!

Day 2

If you can, warm up your brain and remind yourself about Perimeter – click the link below and it will take you to a BBC Bitesize page all about perimeter. Scroll down to activity 2 and take the quiz!

The logo for BBC Bitesize, featuring the word "Bitesize" in white, bold, sans-serif font centered within a solid orange rectangular background.

Bitesize

Quick Quiz!

What is a perimeter?

- ☐ The distance around the edge of a shape
 - ☐ The distance across a shape
 - ☐ The size of the surface of a 2D shape
 - ☐ The size of the surface of a 3D shape
-

What is the perimeter of a 6cm square?

- ☐ 6cm
 - ☐ 12cm
 - ☐ 18cm
 - ☐ 24cm
-

A square has a perimeter of 32cm. How long are the sides?

- ☐ 4cm
- ☐ 8cm
- ☐ 10cm
- ☐ 16cm

Quick Quiz Answers!

What is a perimeter?

- ☒ The distance around the edge of a shape
 - ☐ The distance across a shape
 - ☐ The size of the surface of a 2D shape
 - ☐ The size of the surface of a 3D shape
-

What is the perimeter of a 6cm square?

- ☐ 6cm
 - ☐ 12cm
 - ☐ 18cm
 - ☒ 24cm
-

A square has a perimeter of 32cm. How long are the sides?

- ☐ 4cm
- ☒ 8cm
- ☐ 10cm
- ☐ 16cm

In our last lesson, we were working out the perimeter of rectangles and squares, using our knowledge of properties of 2D shapes.

In this lesson, we are going to practise working out the perimeter of shapes made up of more than 1 rectangle.

Learn

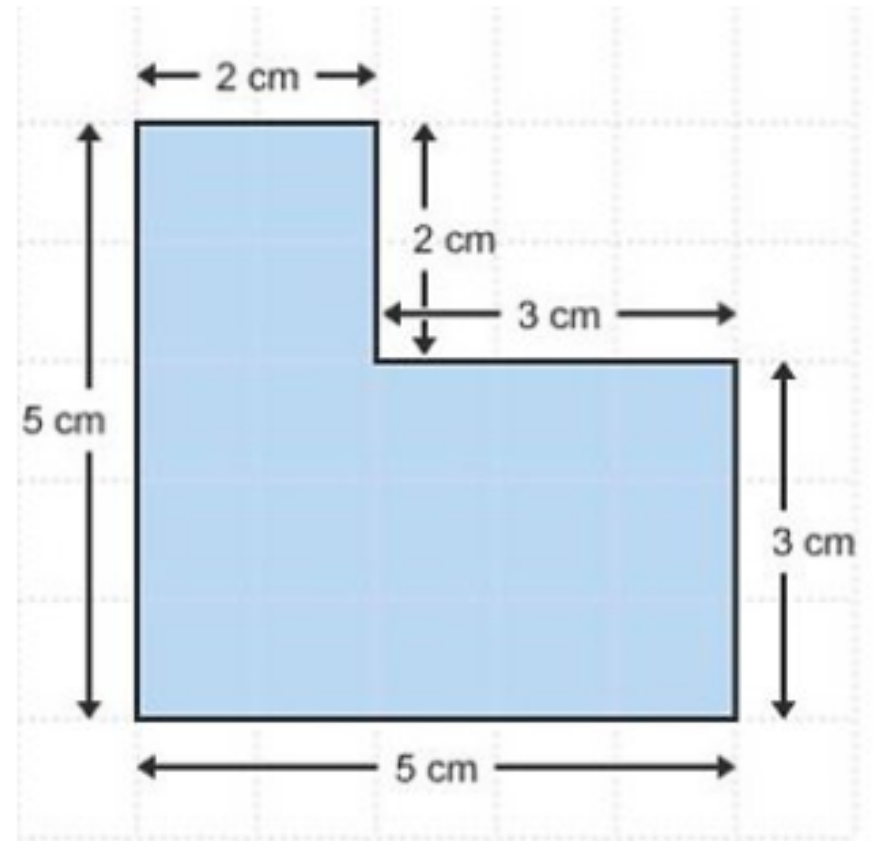
What is the perimeter?

This shape looks much more complicated than a rectangle, but the method of working out the perimeter is exactly the same.

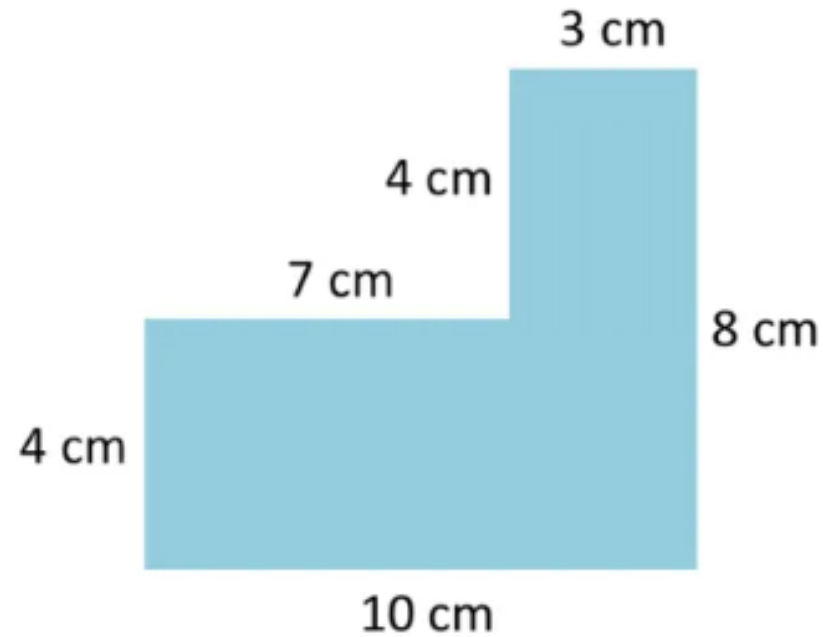
Add together the lengths of all the sides to find it.

$$2 + 2 + 3 + 3 + 5 + 5 = 20$$

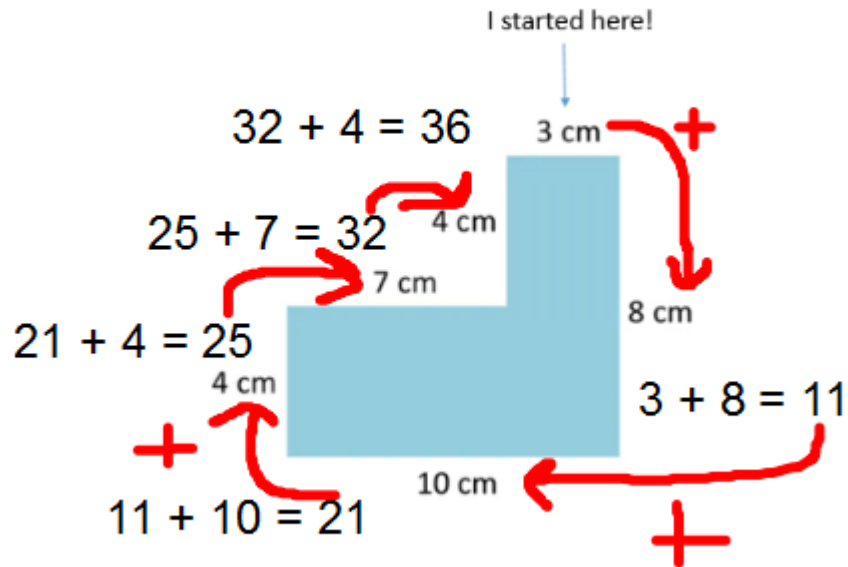
The perimeter is 20 cm



Can you calculate the perimeter of this shape?



How did I get my answer?



Answer = 36cm

Step 1 – I chose a starting point and added the first 2 sides together (I always go clockwise!)
 $3 + 8 = 11$

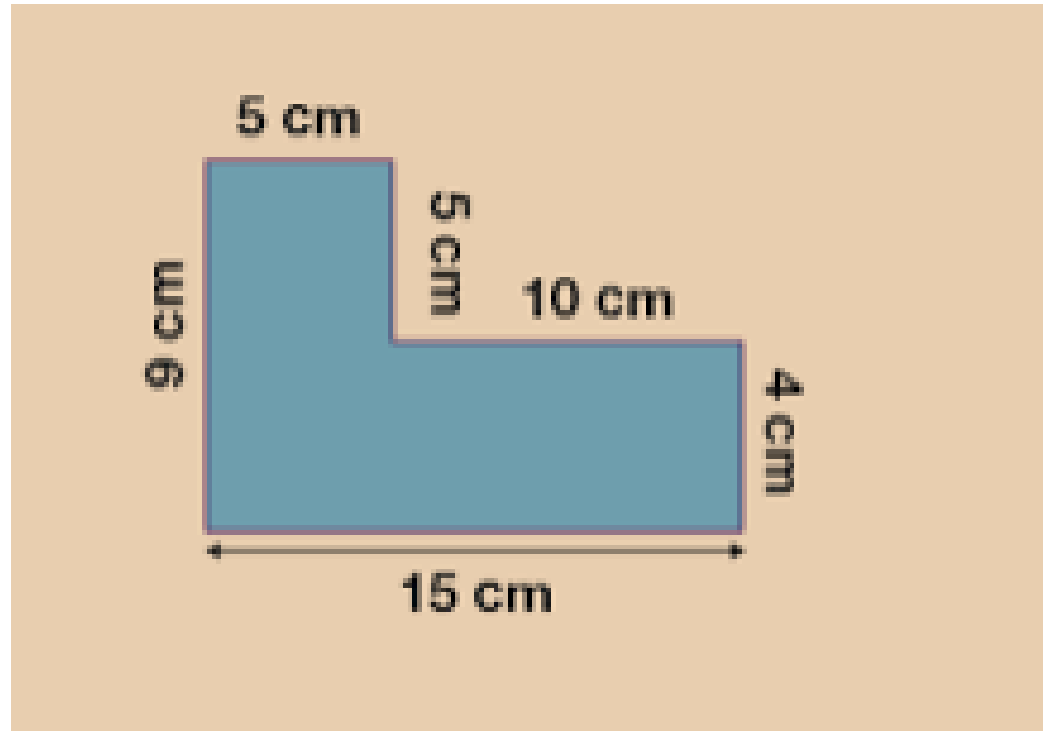
Step 2 – I then took the answer from step 1 and added the next side
 $11 + 10 = 21$

Step 3 - I took the answer from step 2 and added the next side
 $21 + 4 = 25$

Step 4 – I continued until I had added all of the sides.
 $25 + 7 = 32$

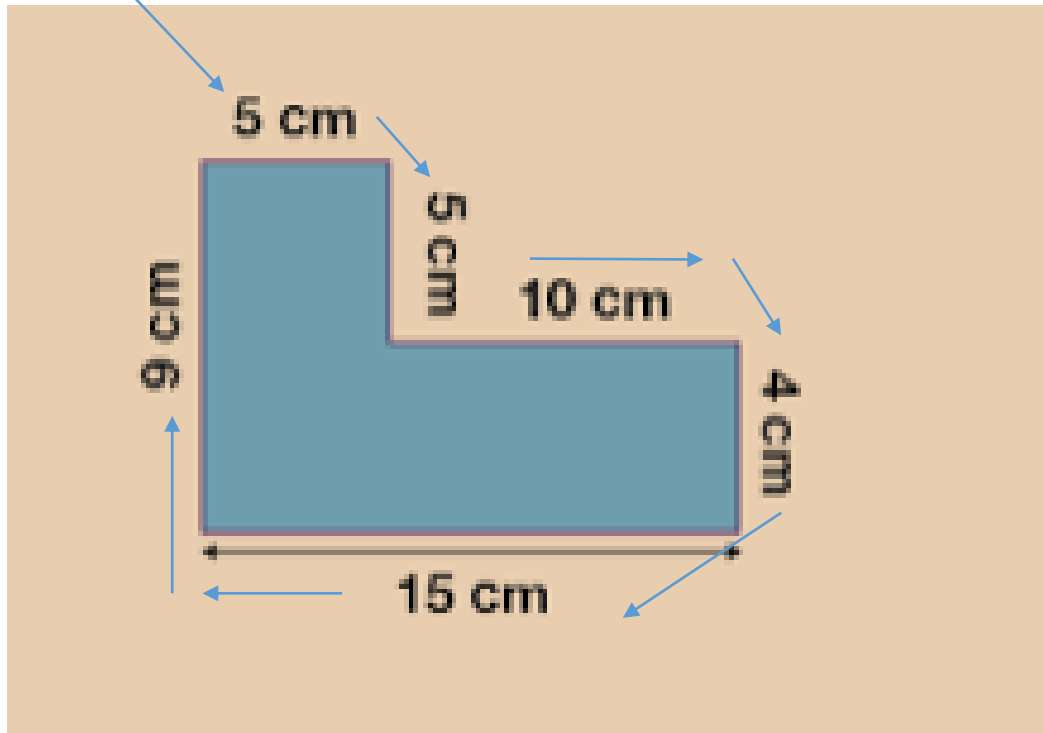
$32 + 4 = 36$

Can you find the perimeter of this rectilinear shape?



Can you find the perimeter of this
rectilinear shape?

I started here!



$$5 + 5 = 10$$

$$10 + 10 = 20$$

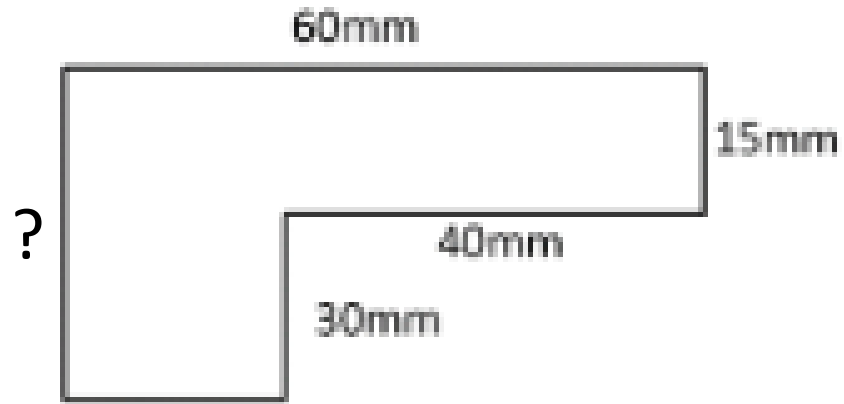
$$20 + 4 = 24$$

$$24 + 15 = 39$$

$$39 + 9 = 48$$

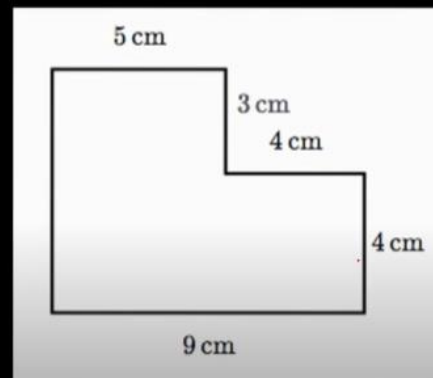
Answer = 48cm

Sometimes, you are asked to find the perimeter of a rectilinear shape but not all the sides are labelled.

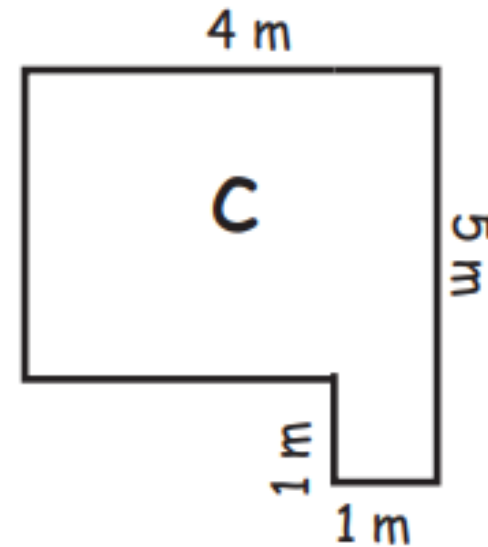
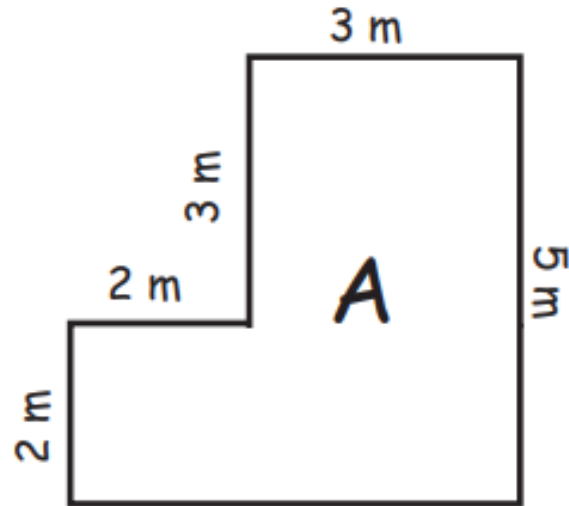


Watch this video for a step-by-step instruction of how to find the missing side and then the whole perimeter.

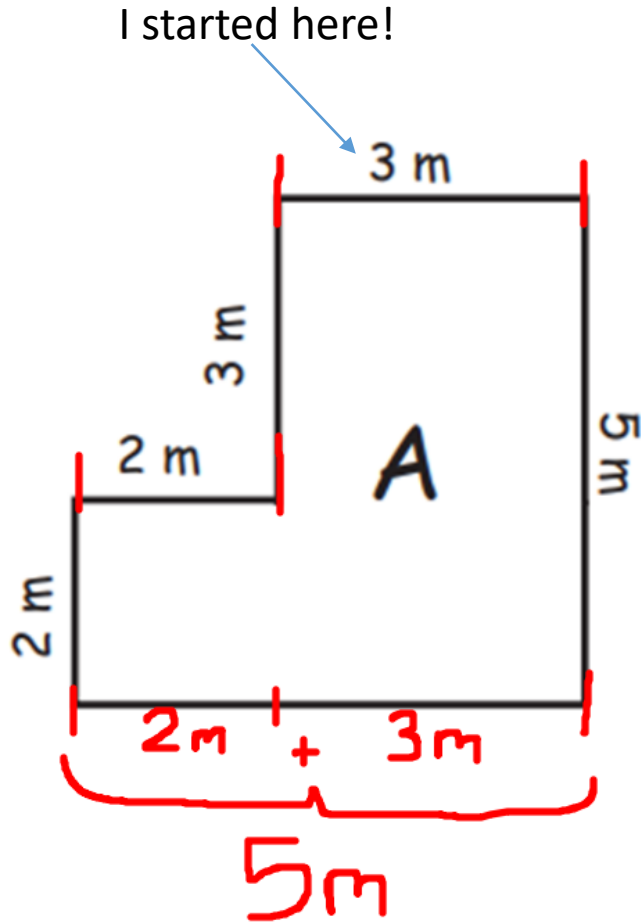
What is the perimeter of the figure below?



Can you find the perimeter of these shapes?



Answers



$$3 + 5 = 8$$

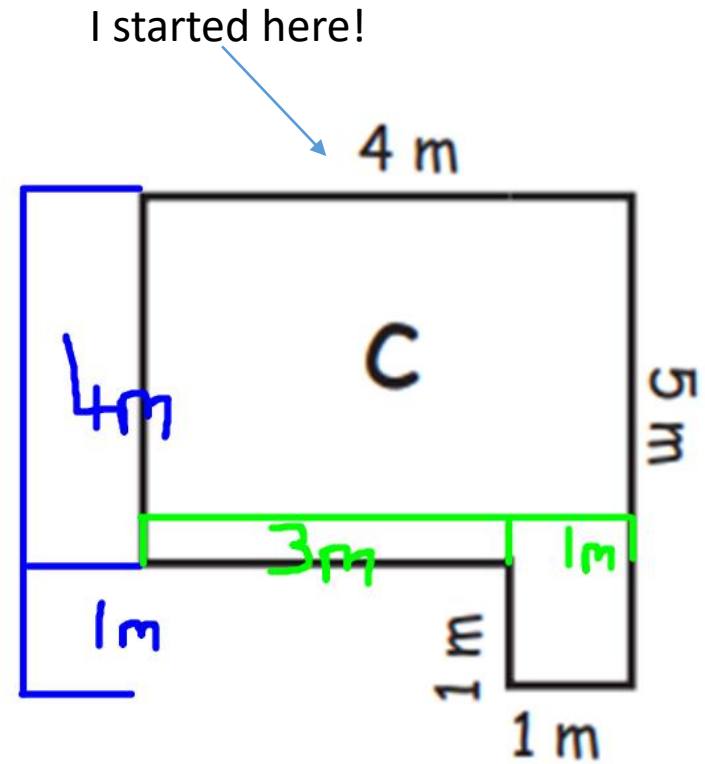
$$8 + 5 = 13$$

$$13 + 2 = 15$$

$$15 + 2 = 17$$

$$17 + 3 = 20$$

Answer = 20m



$$4 + 5 = 9$$

$$9 + 1 = 10$$

$$10 + 1 = 11$$

$$11 + 3 = 14$$

$$14 + 4 = 18$$

Answer = 18m

Now have a go at Day 2 tasks!

Day 3

Have a go at the Day 3 questions –
make sure you read them carefully!

If you fancy an extra challenge, have a
go at the final question on the sheet!