

Year 4 Maths

Finding the area of rectilinear shapes

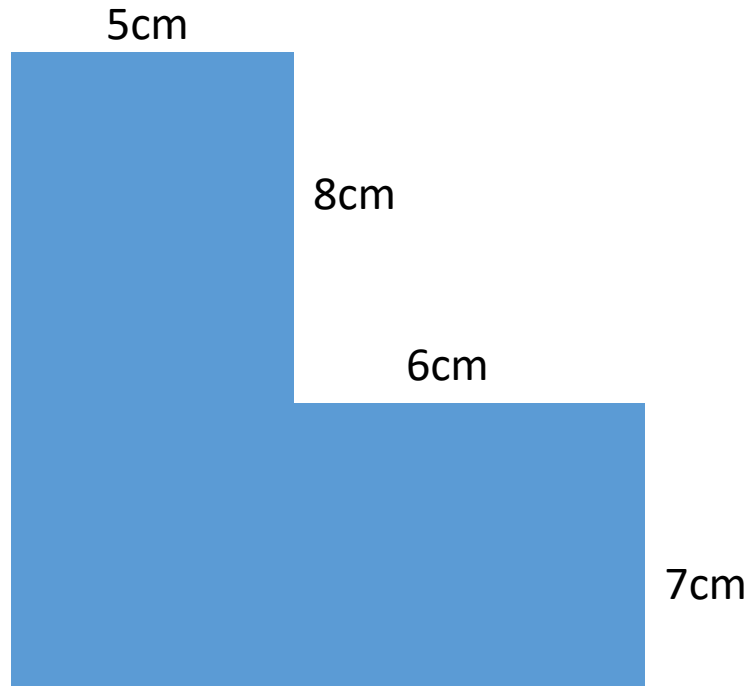
Recap – what is the perimeter of a shape?

- A) The number of sides a shape has.
- B) The distance around the shape.
- C) The number of corners a shape has.
- D) The number of whiskers on Tabby the Cat.

Recap – what is the perimeter of a shape?

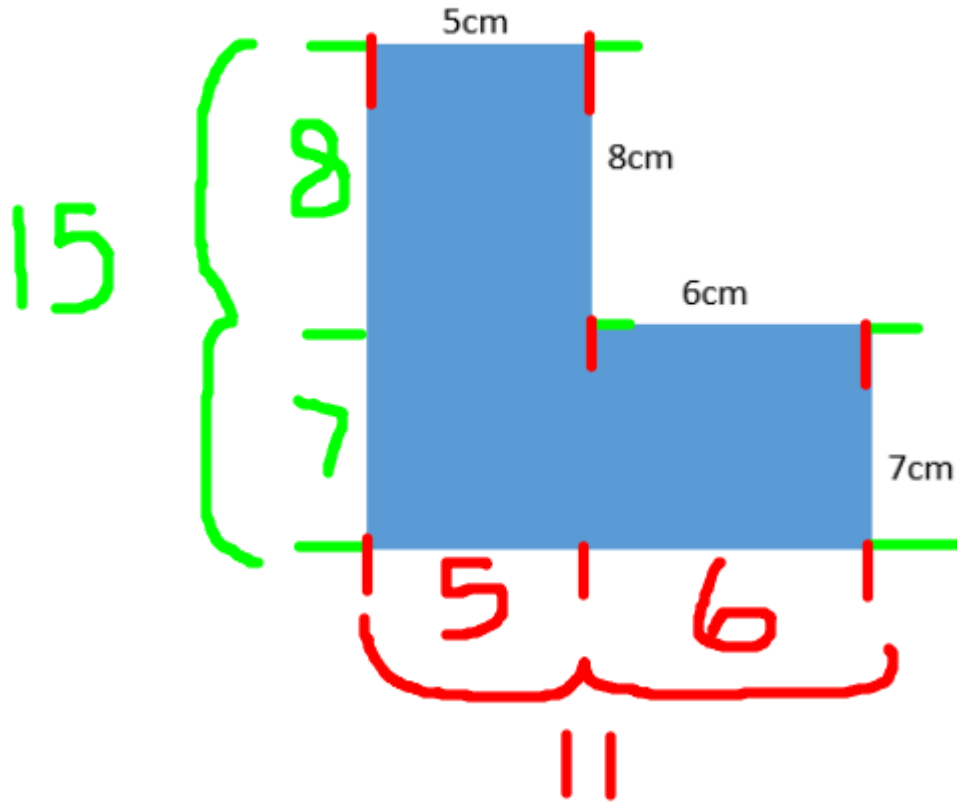
- A) The number of sides a shape has.
- B) The distance around the shape.**
- C) The number of corners a shape has.
- D) The number of whiskers on Tabby the Cat.

Recap – what is the perimeter of this shape?



Remember to find the missing sides!

Recap – what is the perimeter of this shape?



Answer = 52cm

This week, we are going to find the area of shapes!

How is area measured?

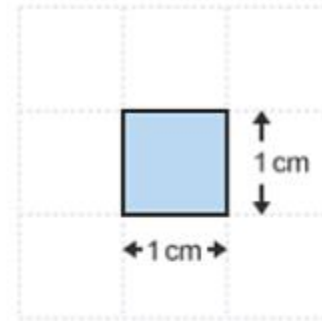
The area of a shape is a measure of the two-dimensional space that it covers.

The area can be found by counting the squares within the shape. All the squares must be the same size.

Here, each square has sides of 1 cm.

We say that it has an area of **1cm squared**.

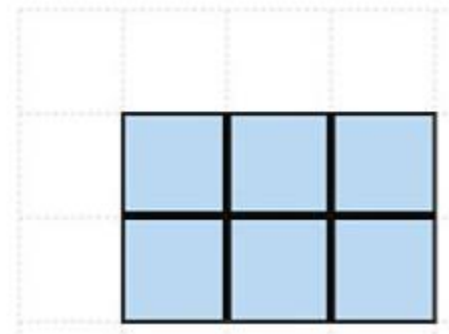
This can be written as **1cm²**. The small 2 means 'squared'.



Can you see that this rectangle contains six squares?

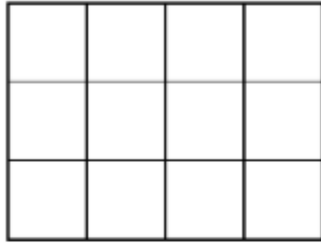
It has two rows of three squares.

Each of the squares has an area of **1cm²**, so the area of the rectangle is **6cm²**.



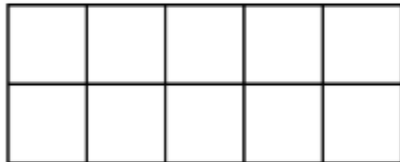
Can you find the area of these shapes?

Count the number of centimetre squares in these shapes:



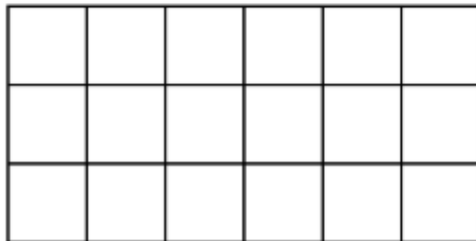
1. Number of squares =

Area = square centimetres



2. Number of squares =

Area = square centimetres

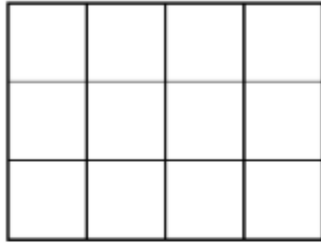


3. Number of squares =

Area = square centimetres

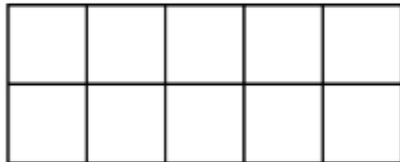
Can you find the area of these shapes?

Count the number of centimetre squares in these shapes:



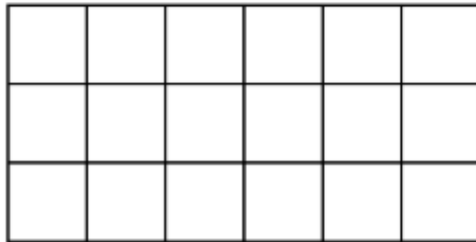
1. Number of squares = 12

Area = 12 square centimetres



2. Number of squares = 10

Area = 10 square centimetres

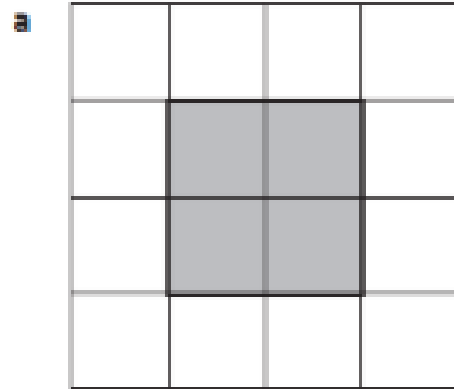


3. Number of squares = 18

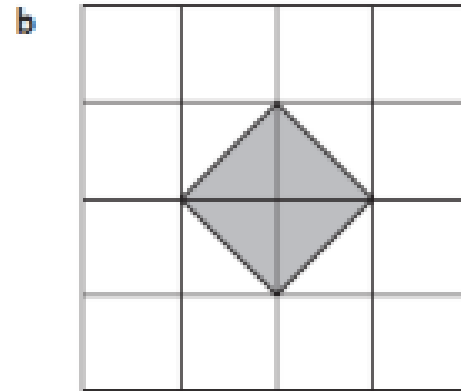
Area = 18 square centimetres

Can you find the area of the shapes below?

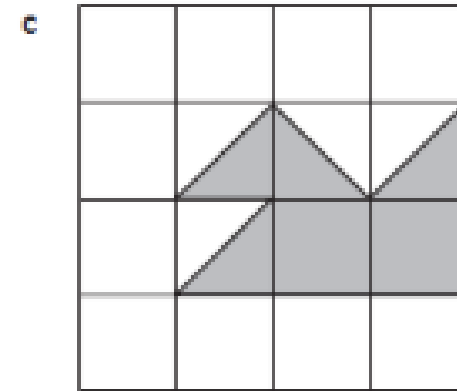
What is the area of each shaded shape? Each square in the grid has an area of 1 cm^2 .



Area = cm^2



Area = cm^2

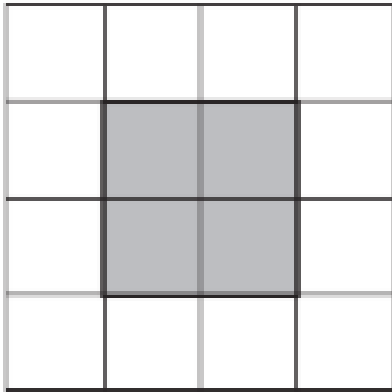


Area = cm^2

Can you find the area of the shapes below?

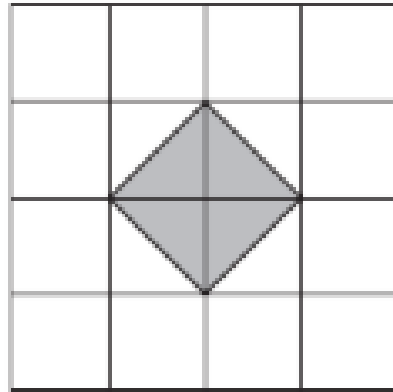
What is the area of each shaded shape? Each square in the grid has an area of 1 cm^2 .

a



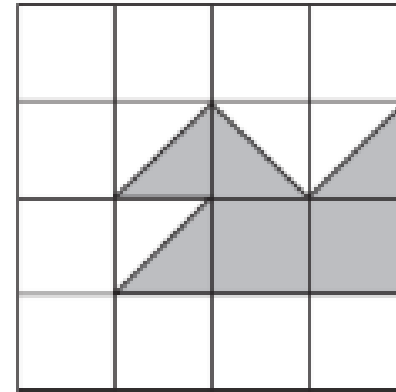
Area = cm^2

b



Area = cm^2

c



Area = cm^2

Careful here! Some squares are only half-filled, so 2 of them make 1 cm^2 !

Day 1

Now have a go at Day 1's tasks!

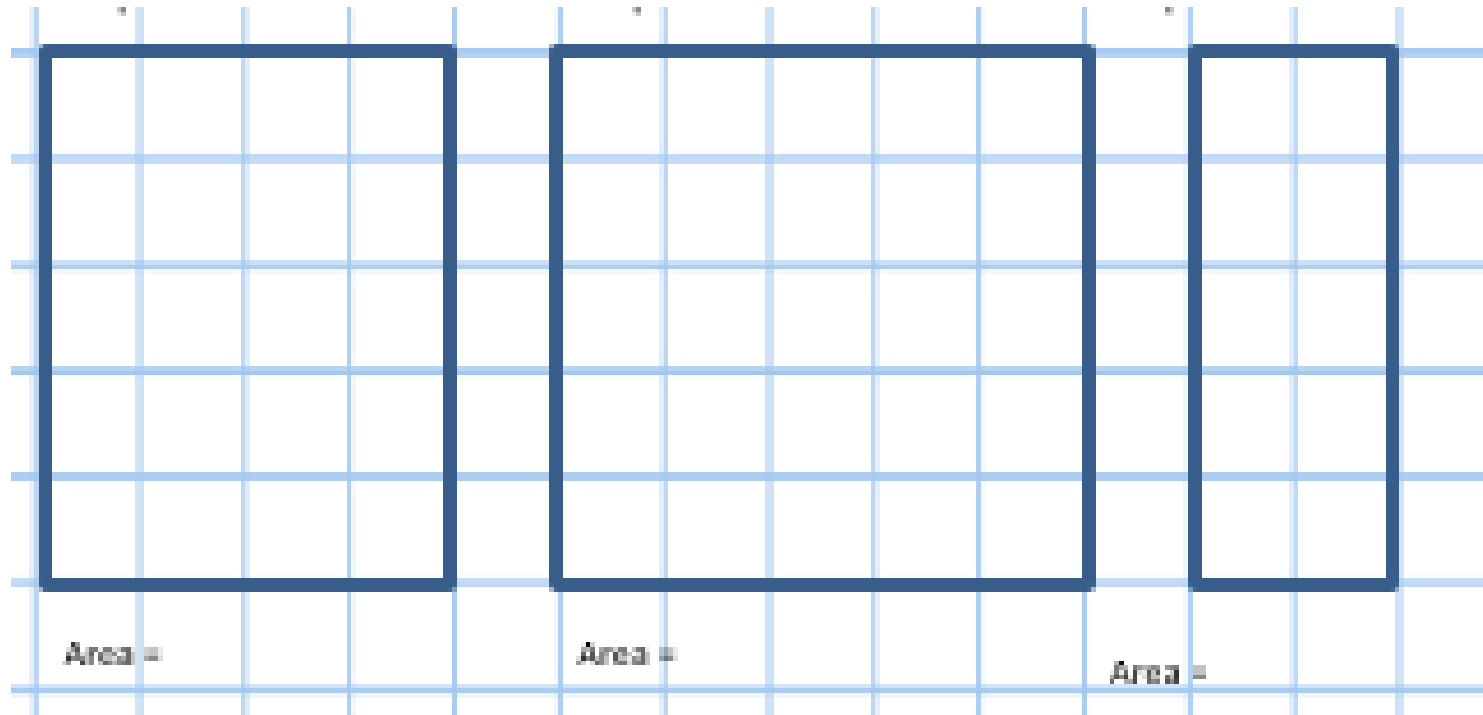
Recap – what is the area of a shape?

- A) The distance around the shape.
- B) The number of corners a shape has.
- C) The shape of Tabby the Cat's bed.
- D) The amount of space inside a shape.

Recap – what is the area of a shape?

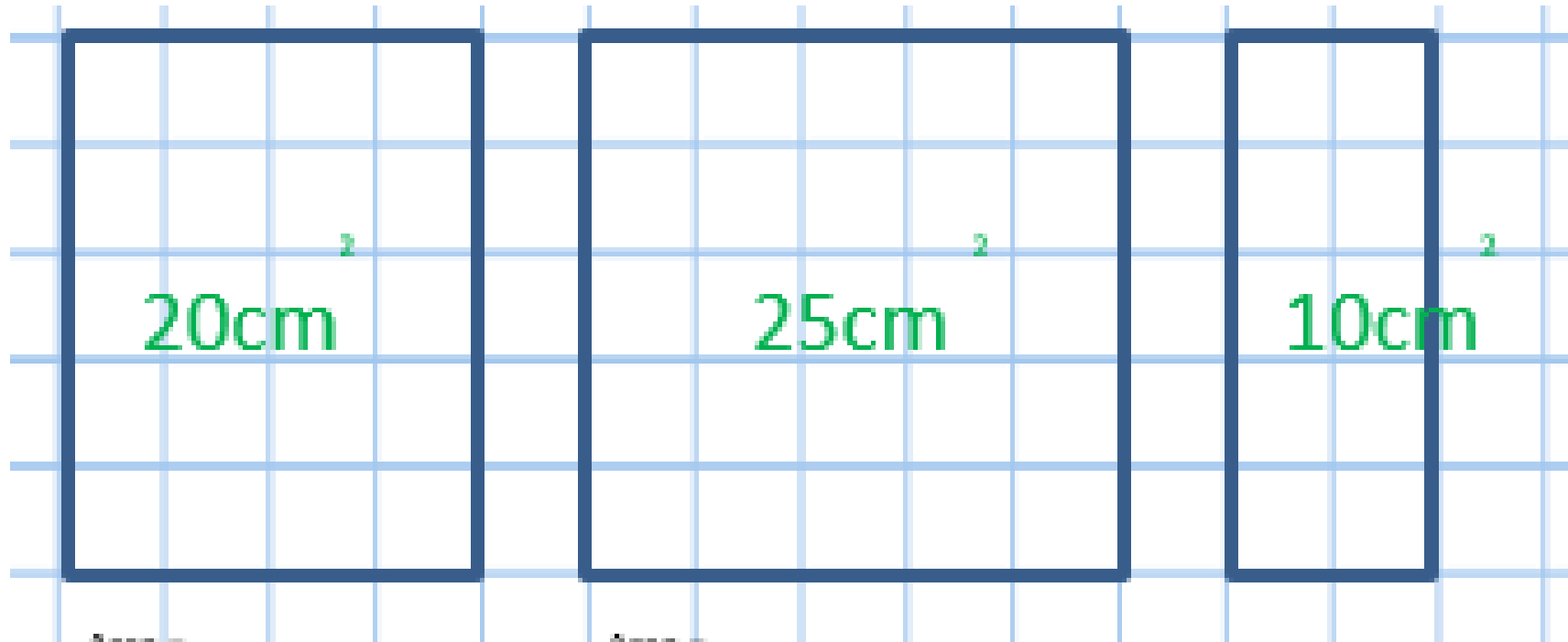
- A) The distance around the shape.
- B) The number of corners a shape has.
- C) The shape of Tabby the Cat's bed.
- D) **The amount of space inside a shape.**

Recap – what are the areas of these shapes?



1 square = 1cm^2

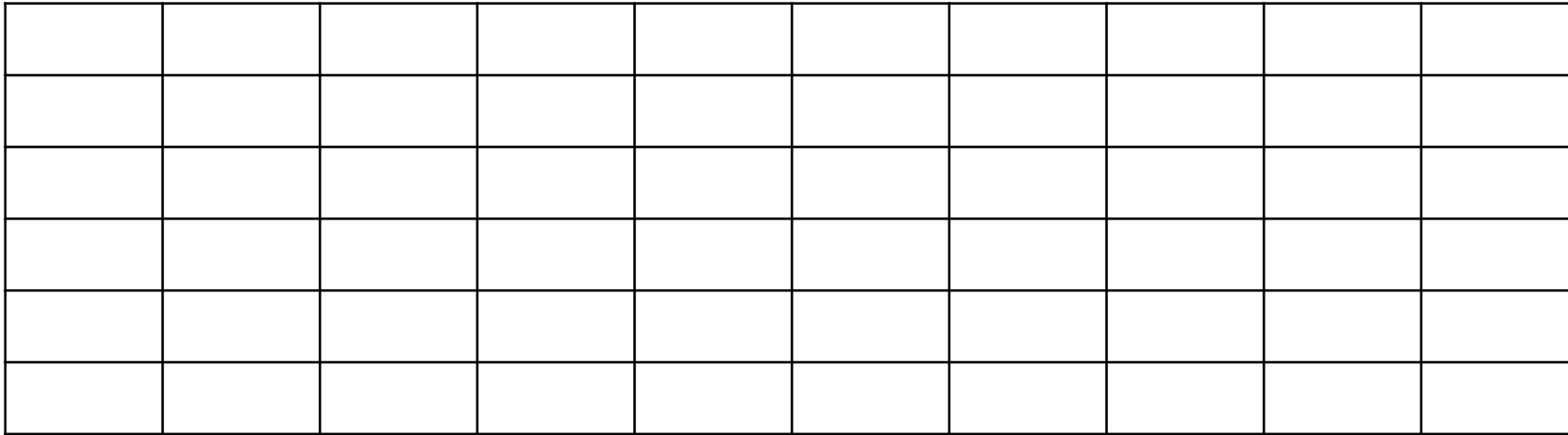
Recap – what are the areas of these shapes?



1 square = 1cm_2

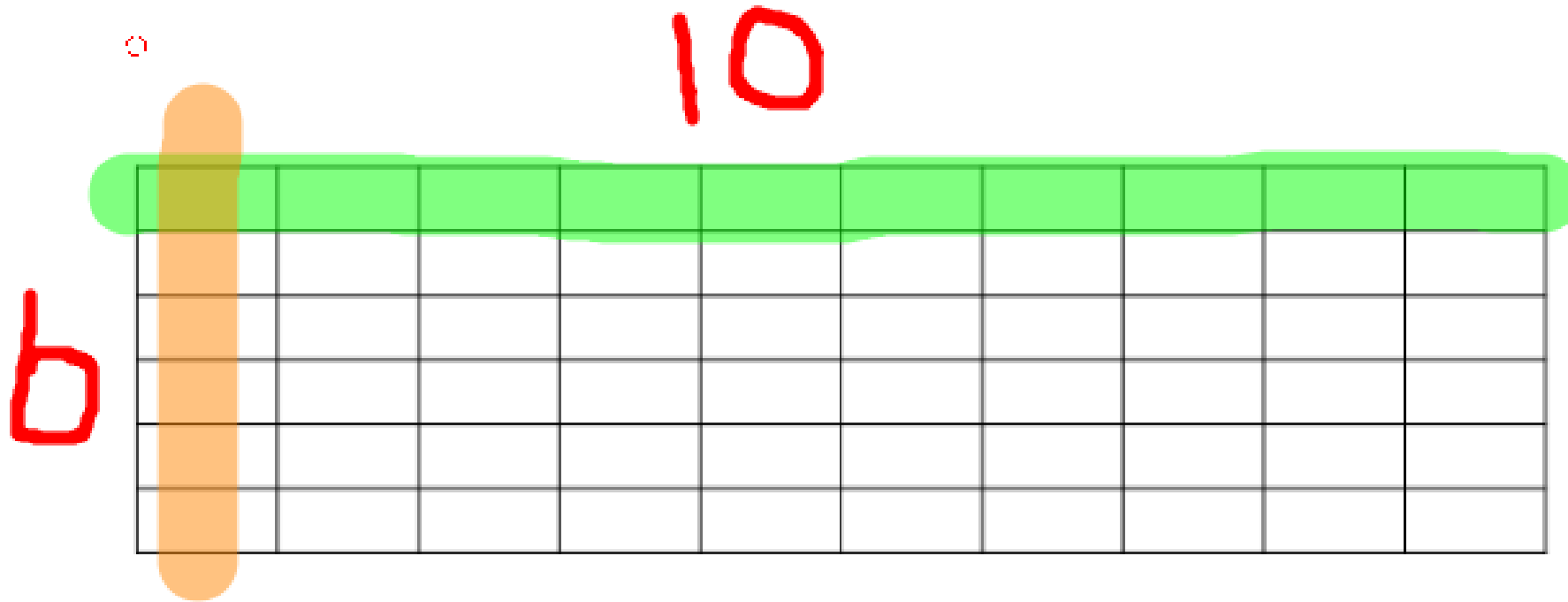
Day 2

Sometimes, shapes are so big it would take a really long time to count all of the squares.



Day 2

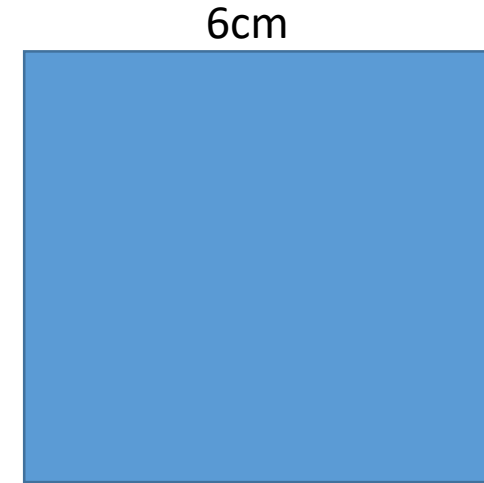
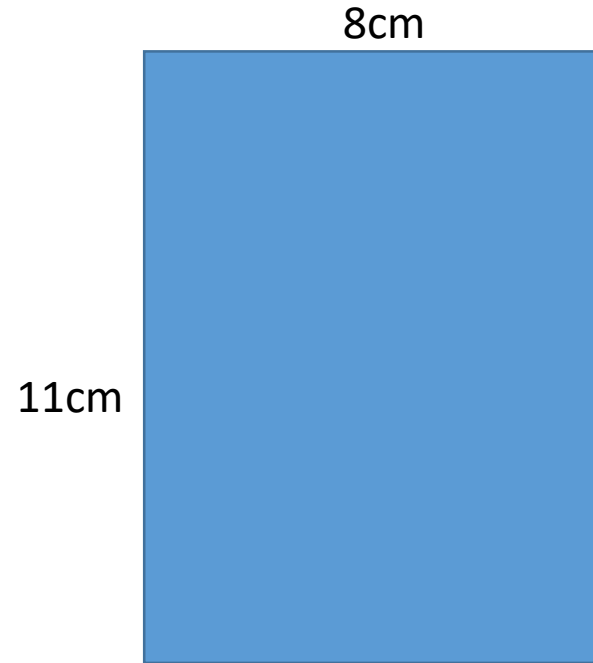
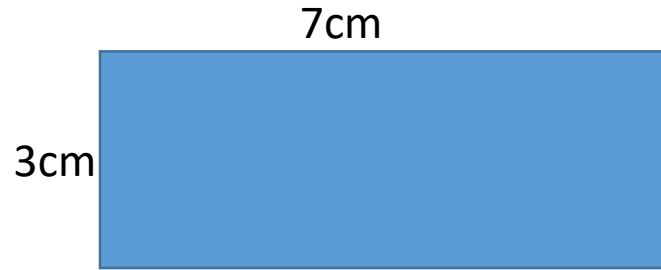
In this case, we can count how many squares are along the top and side of the shape and multiply them together.



$$\text{Area} = 10 \times 6$$

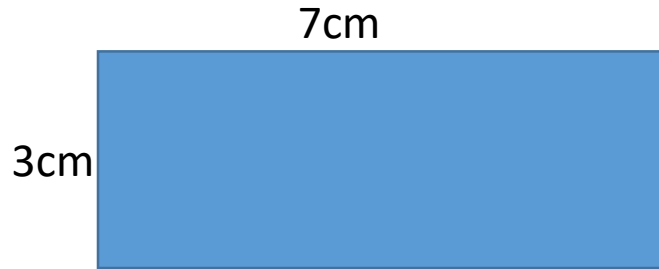
$$\text{Area is } 60\text{cm}^2$$

Can you calculate the area of these shapes*?



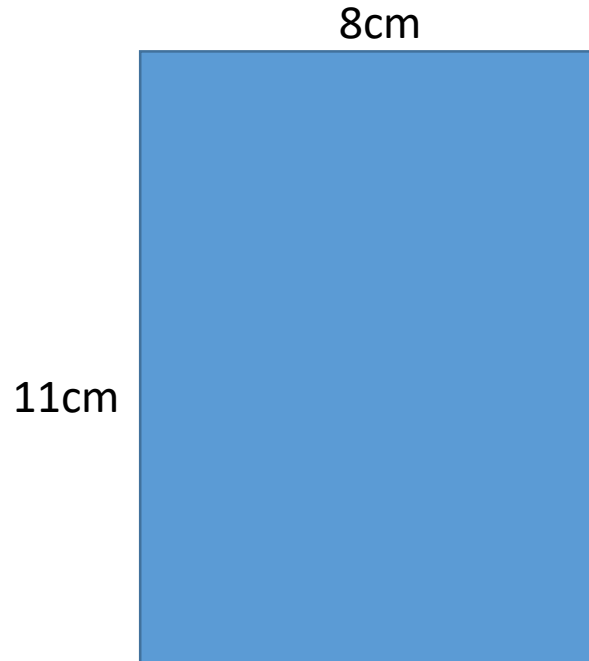
*not to scale!

Can you calculate the area of these shapes*?



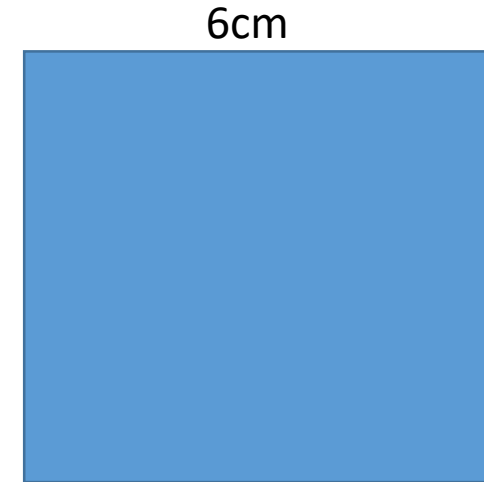
$$\text{Area} = 7 \times 3$$

$$\text{Area} = 21\text{cm}^2$$



$$\text{Area} = 8 \times 11$$

$$\text{Area} = 88\text{cm}^2$$



$$\text{Area} = 6 \times 6$$

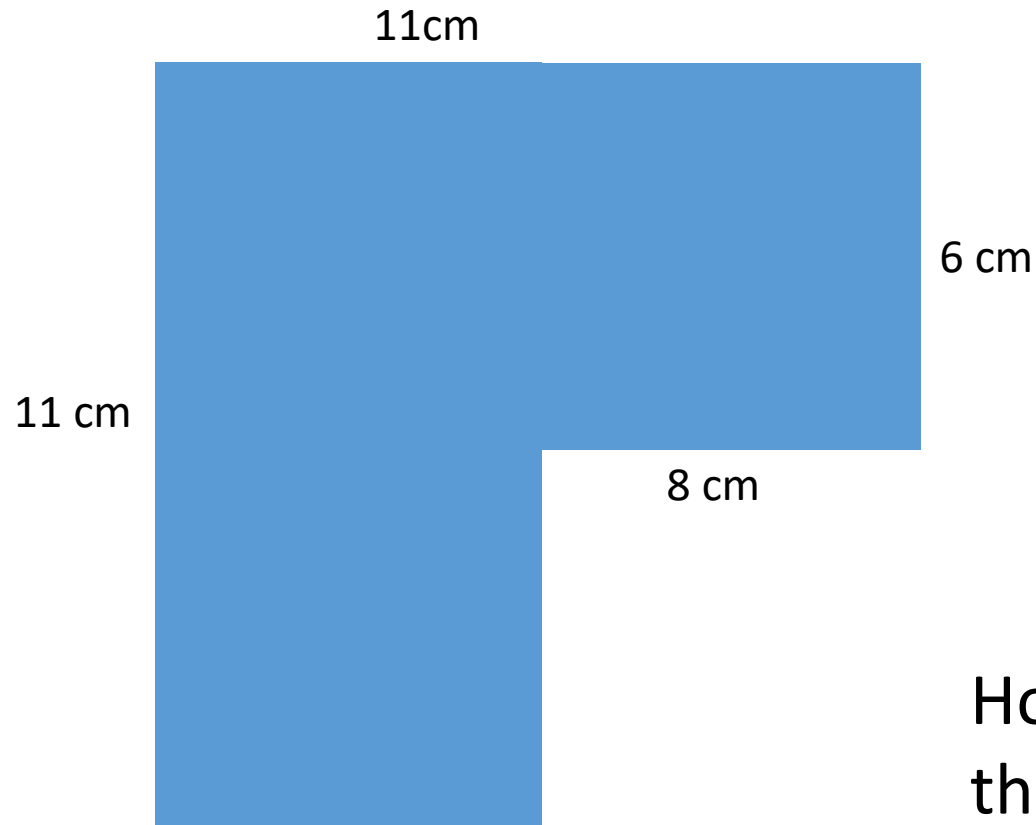
(it's a square!)

$$\text{Area} = 36\text{cm}^2$$

*not to scale!

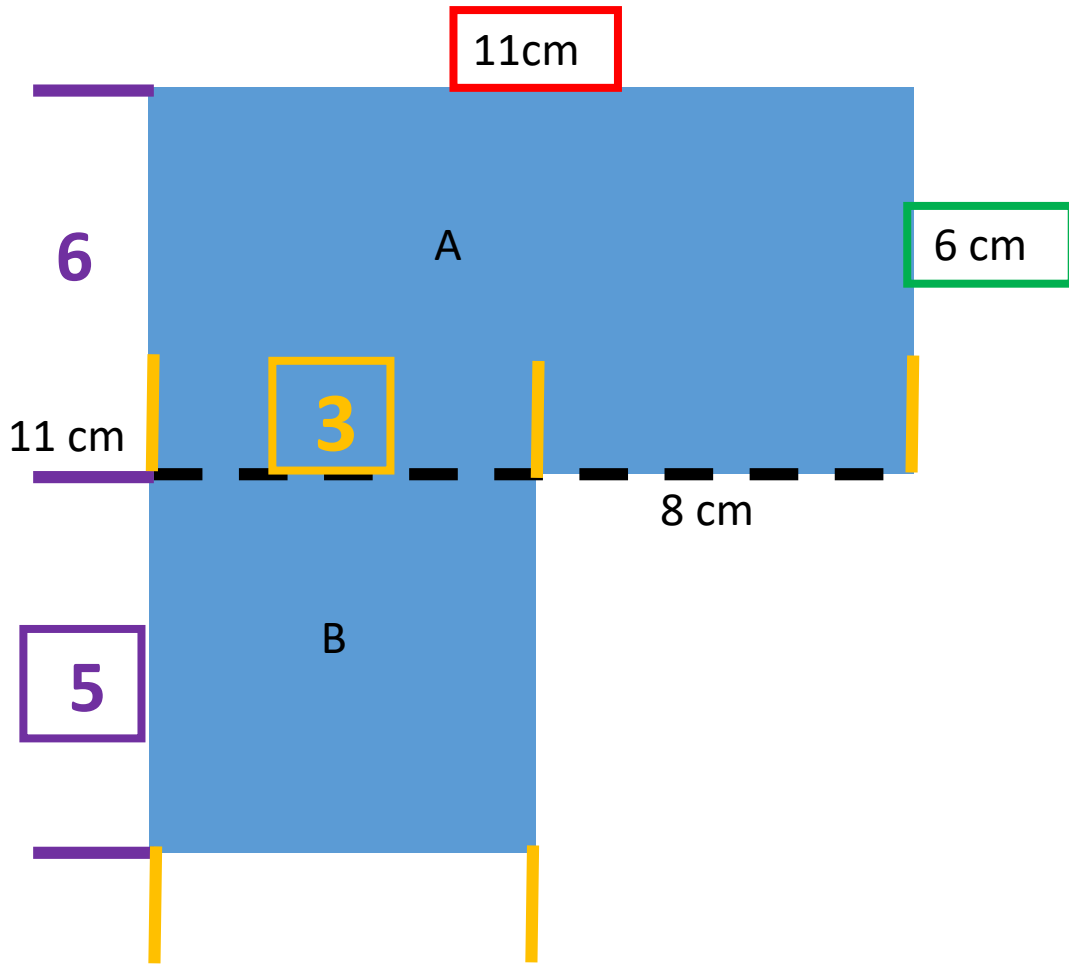
Day 2

Some shapes you need you to use your knowledge of perimeter to help you find the area.



How can we find the area of this shape?

Day 2



Step 1 – divide the shape into 2 rectangles, and label them A and B.

Step 2 – work out the area of rectangle A by multiplying the length by the width.

11cm x 6cm = 66cm

Step 3 – work out how long the sides are on rectangle B before multiplying them together to find out the area.

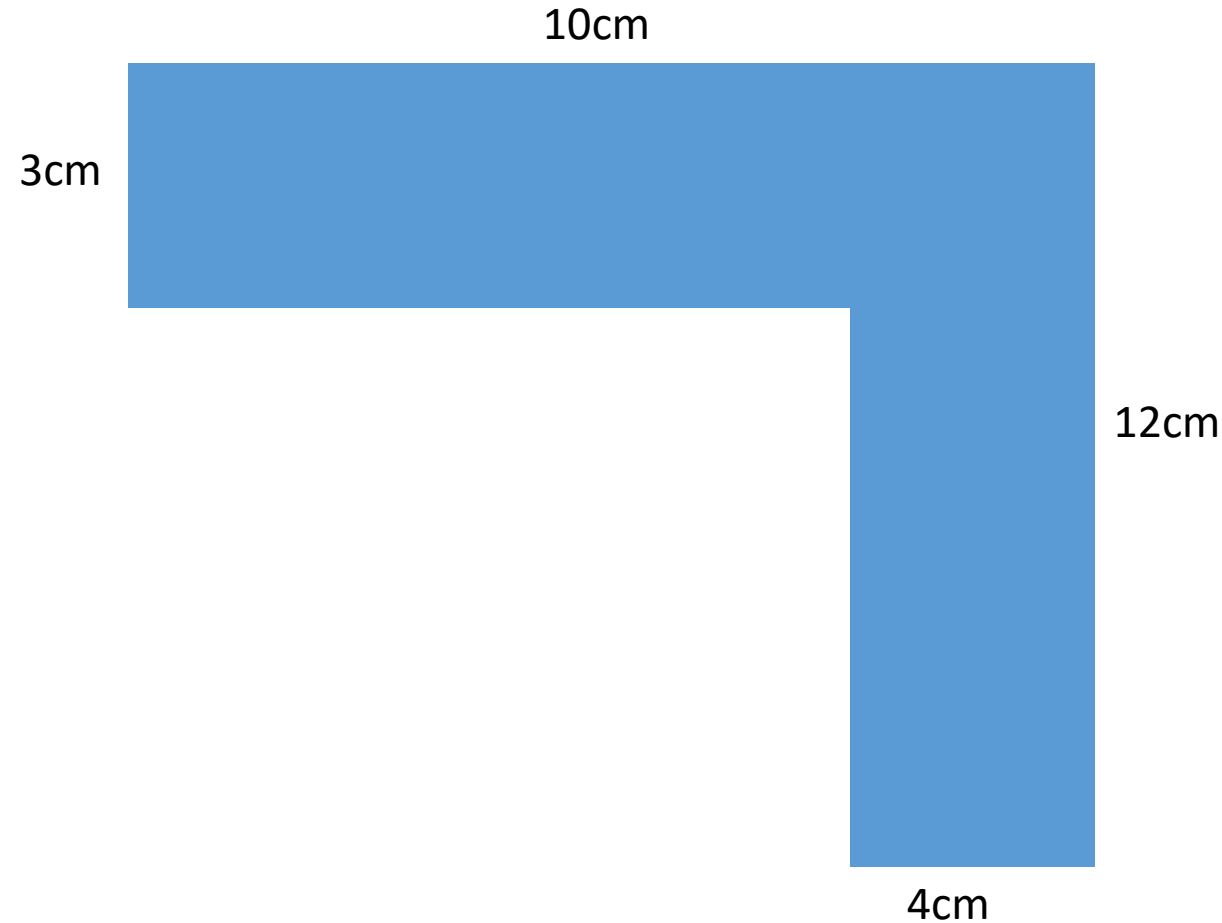
5cm x 3cm = 15cm

Step 4 – add the 2 areas together to find the area of the whole shape

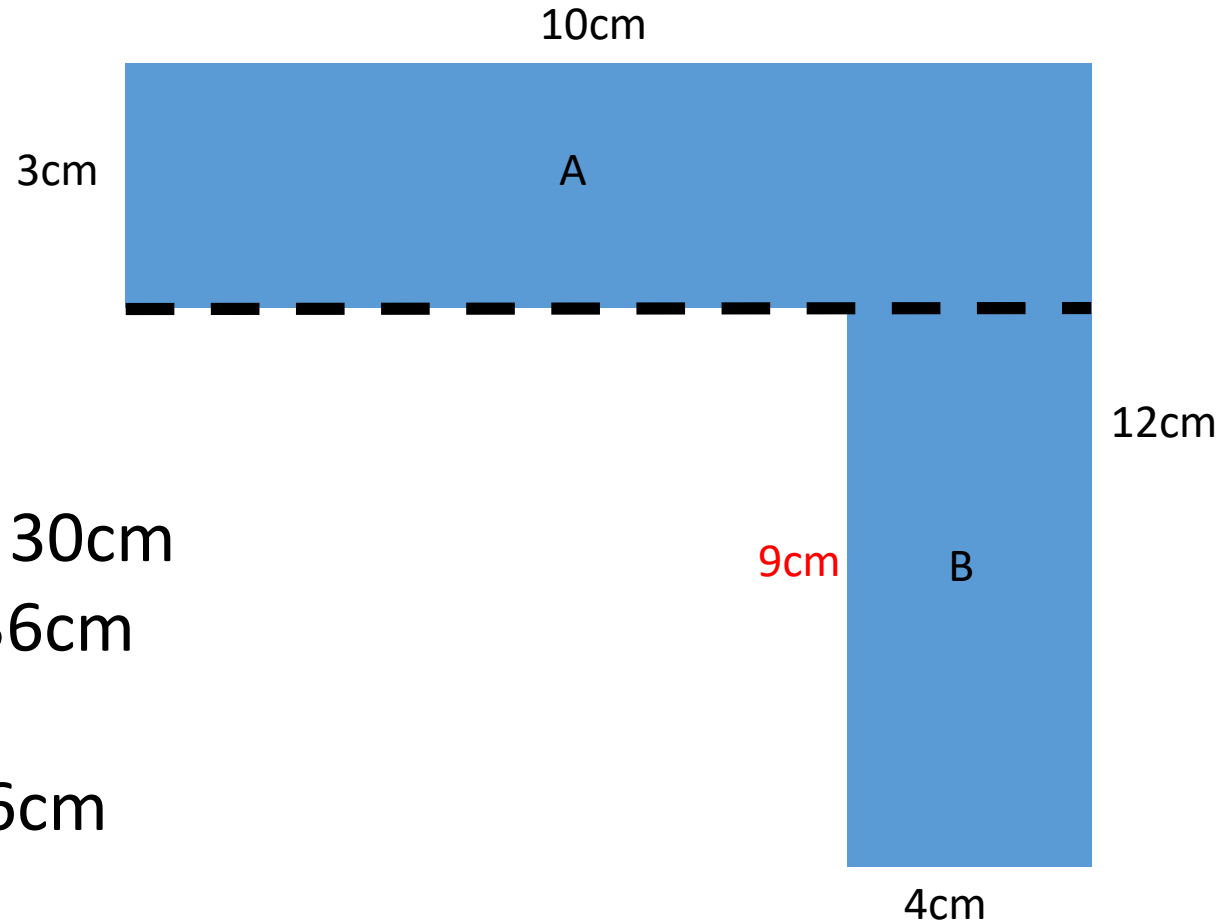
$$66\text{cm} + 15\text{cm} = 81\text{cm}_2$$

Day 2

Can you find the area of this shape?



Can you find the area of this shape?



$$A = 10 \times 3 = 30\text{cm}$$

$$B = 9 \times 4 = 36\text{cm}$$

$$\text{Answer} = 66\text{cm}$$

Now have a go
at Day 2's
tasks!

Day 3

Have a go at the problem solving questions for Day 3.
Explain your answers carefully!