

Maths Year 5 - Area and perimeter w/c 15.06.20

The objectives we are working on this week are:

- To measure and calculate the perimeter of shapes in cm and m.
- To calculate and compare the area of rectangles, using standard units, square centimetres (cm²) and square metres (m²).

Monday 15th June

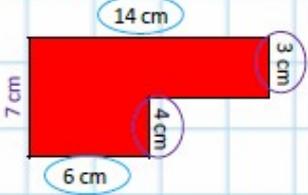
Use the links and guide to help you with area and perimeter.

<https://www.bbc.co.uk/bitesize/topics/zvmxsbk/articles/zsr4k7h>

<https://www.bbc.co.uk/teach/class-clips-video/maths-ks2-as-the-crow-flies-perimeter-and-area-of-compound-shapes/znn76v4>

<https://www.bbc.co.uk/bitesize/articles/zbcnf4j>

Step 1
A composite or compound shape is a shape made up of more than one square or rectangle.



Step 2
When working out the missing sides, you look at all the horizontal lines, or the vertical lines.
If you know two shorter sides, add these together to find the longer opposite side.

$$3 \text{ cm} + 4 \text{ cm} = 7 \text{ cm}$$

Step 3
If you know a longer side opposite a shorter side, subtract the shorter side from the longer side.

$$14 \text{ cm} - 6 \text{ cm} = 8 \text{ cm}$$

Step 4
Add all of the lengths of the sides together to find the perimeter.
 $14 \text{ cm} + 3 \text{ cm} + 4 \text{ cm} + 6 \text{ cm} + 7 \text{ cm} = 34 \text{ cm}$

Now try these questions. If you are still struggling look back at the videos and the step by step guide to help you.

Calculate the perimeter and area of these rectangles

1. 10cm 2. 3cm

4cm

6cm

3.

12cm

4.

11cm

6cm

7cm

5.

8cm

6.

9cm

8cm

12cm



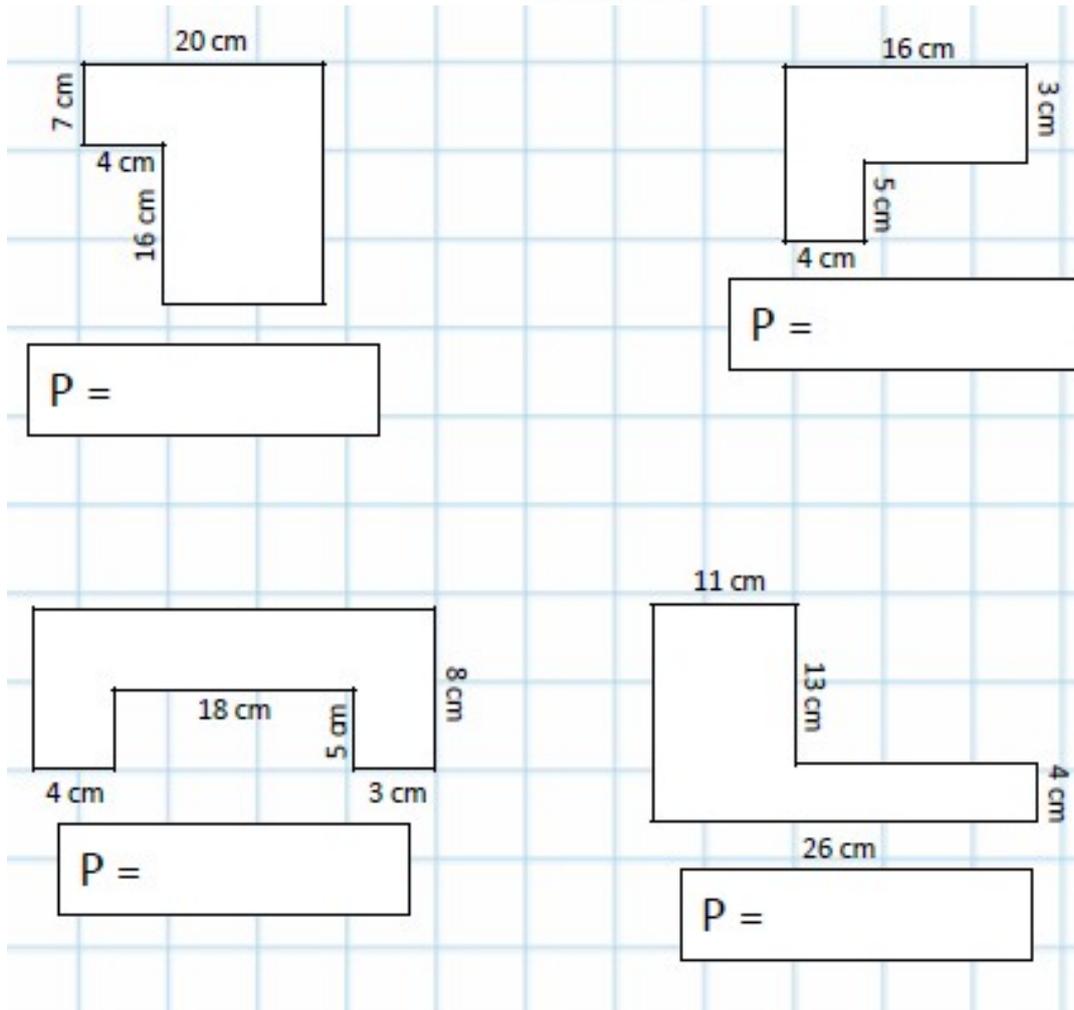
Complete in your book...

7. Can you draw a shape with a perimeter of 16cm?
8. Can you draw a shape with an area of 16cm²?
9. Can you draw a shape with a perimeter of 36cm?
10. Can you draw a shape with an area of 36cm²?

Tuesday 16th June

Find the perimeter of these shapes.

How are you going to work out the length of the sides that are missing?



The image shows four composite shapes on a grid, each with its dimensions labeled and a box for its perimeter calculation.

- Top Left Shape:** A shape with a top side of 20 cm, a left side of 7 cm, a bottom-left vertical side of 4 cm, and a bottom-left horizontal side of 16 cm. Below it is a box labeled $P =$.
- Top Right Shape:** A shape with a top side of 16 cm, a right side of 3 cm, a bottom-right vertical side of 5 cm, and a bottom-left horizontal side of 4 cm. Below it is a box labeled $P =$.
- Bottom Left Shape:** A shape with a right side of 8 cm, a bottom-right horizontal side of 3 cm, a bottom-left vertical side of 5 cm, and a bottom-left horizontal side of 18 cm. Below it is a box labeled $P =$.
- Bottom Right Shape:** A shape with a top side of 11 cm, a left side of 13 cm, a bottom-right vertical side of 4 cm, and a bottom horizontal side of 26 cm. Below it is a box labeled $P =$.

Once you have done that, write some top tips for a Year 5 who is struggling to find the perimeter of these shapes.

Think about what needs to be done first and how you can add them up correctly. Remember about units of measure!

Wednesday 17th June

Step 1

The area tells you space inside a shape.

To work out the area of a rectangle, or square, multiply the width by the length.



So the area = 8

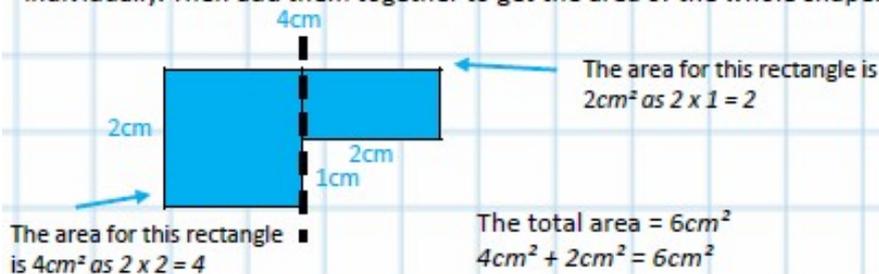
Step 2

Once you've calculated your area, ensure that you write the correct unit of measure. This rectangle has been measured in cm, we then need to use the squared symbol as it's measured in 2 directions.

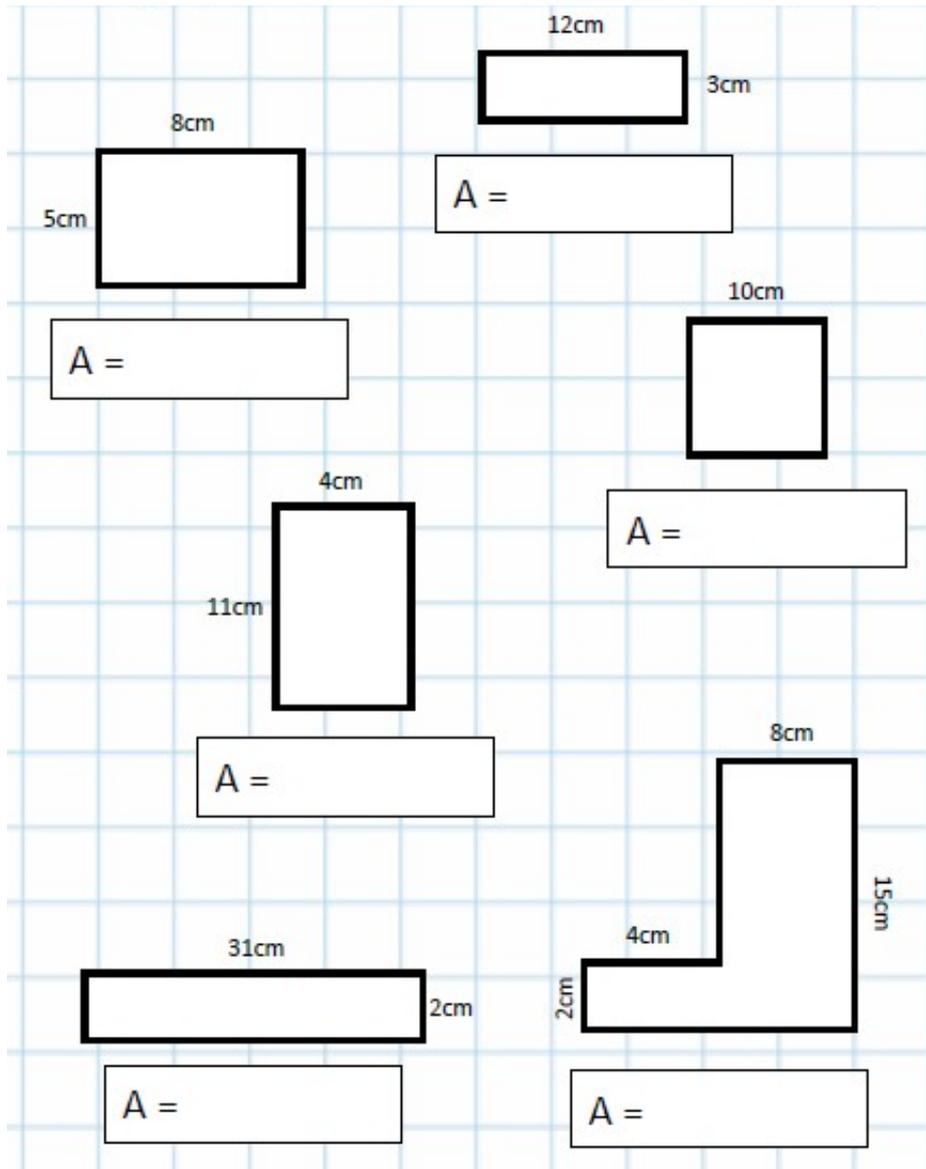
$$Area = 4 \times 2 = 8 \text{ cm}^2$$

Step 3

To work out the area of composite or compound shapes (all rectangular), split the shape into appropriate rectangles and work out the area for them individually. Then add them together to get the area of the whole shape.



Here is another step by step guide that may support you with working out the area of shapes. Use this to help you with working out the area of the shapes on the next page.



12cm
3cm
A =

8cm
5cm
A =

10cm
A =

4cm
11cm
A =

8cm
15cm
4cm
2cm
A =

31cm
2cm
A =

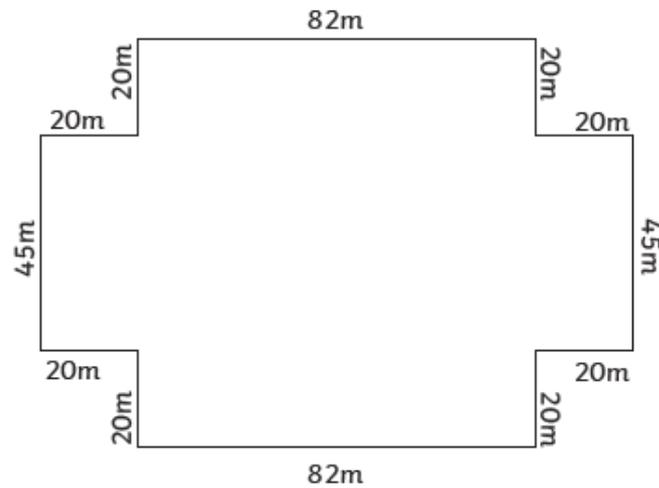
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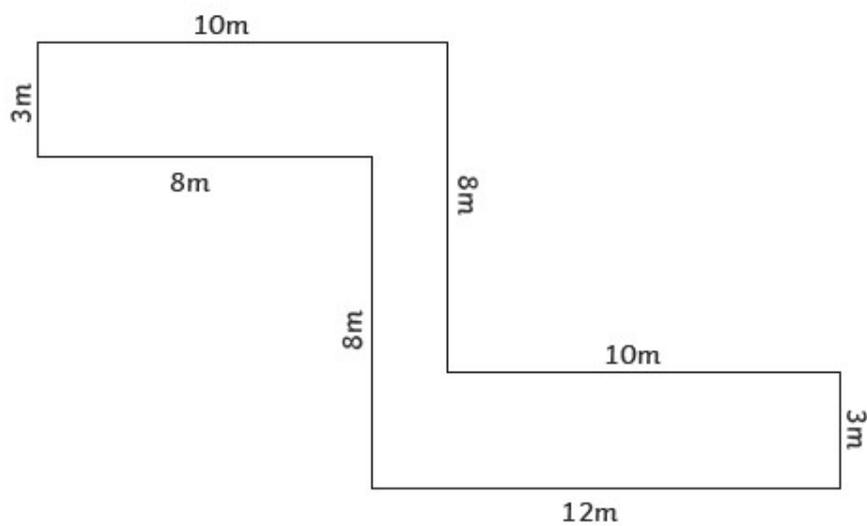
Thursday 18th June

Solve these word problems. Remember to read the question and underline the important information. Also use your top tips to help you!

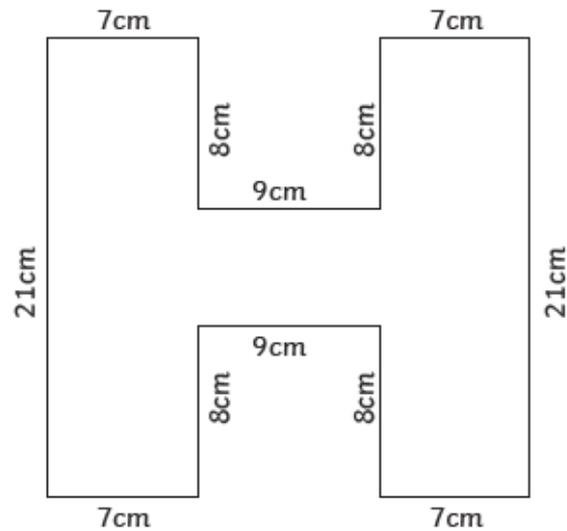
- Jamie ran around the perimeter of the local park. He used his smartphone to draw a map and measure the distance as he ran. From the map, work out the total distance he ran all the way around the perimeter of the park.



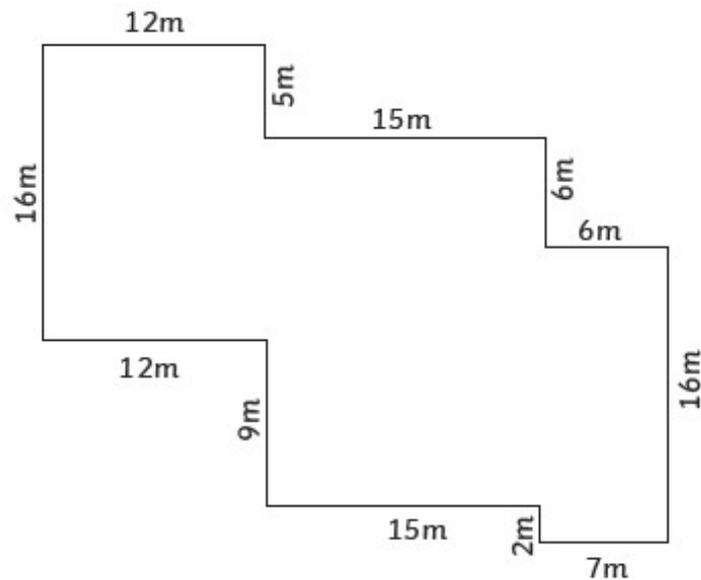
- Farmer Green wants to put a fence up for his ferret enclosure. What is the length of chicken wire he needs to go around the whole perimeter of the enclosure?



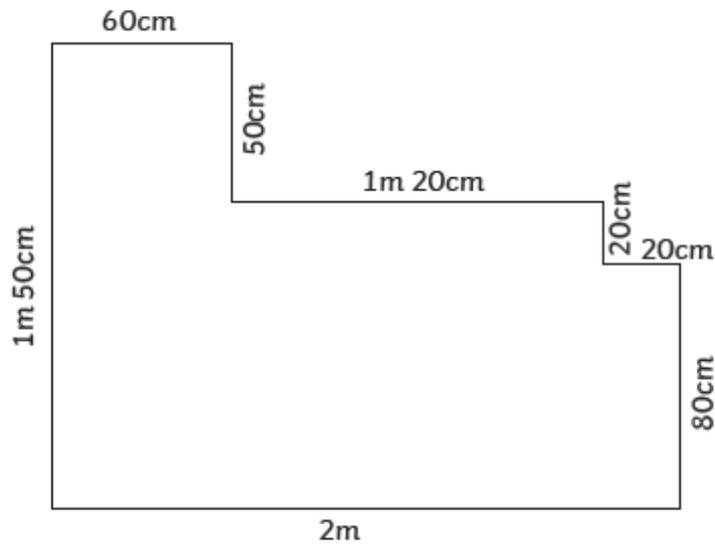
3. Harry has designed a T-shirt with his initial on it. He wants to go around the edge of the letter in shiny black fabric paint to make it stand out. Work out the perimeter of the shape so that Harry can work out how much paint he needs.



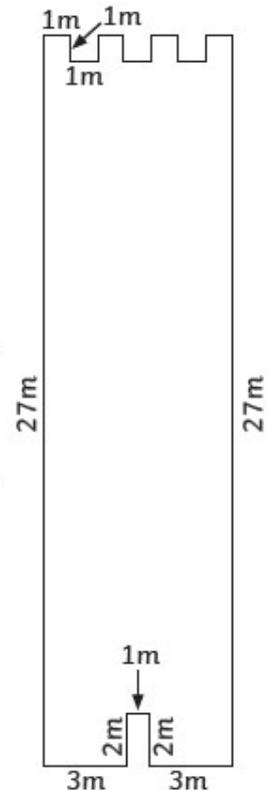
4. The school caretaker needs to paint a white line around the perimeter of the staff car park at school. Use the diagram to work out the length of the white line she will need to paint.



5. Mr Taylor is putting a border around a display in the school entrance hall. The board is a bit of a funny shape. Can you help him by working out the length of border he will need to go round the perimeter? (Tip: watch out for cm or m.)

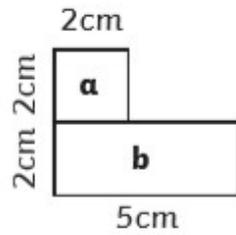


6. The local vicar wants to decorate one side of the church tower using strings of fairy lights all around the perimeter (including where the edge will go up around the doorway):
- What length of lights does she need for the whole side of the tower?
-
- If the lights cost £8 for a string of 10m, how many strings would she need and how much would it cost?
-



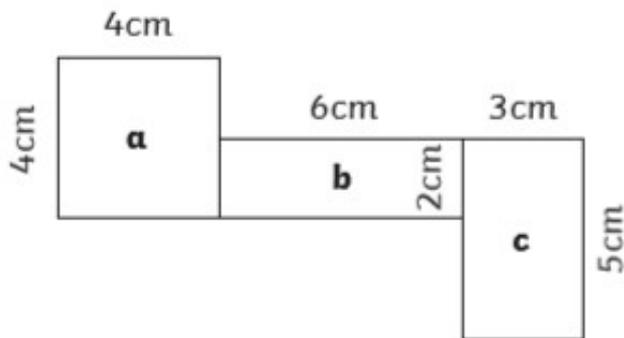
Friday 19th June

Find the area of these compound shapes. Use your top tips to help you!



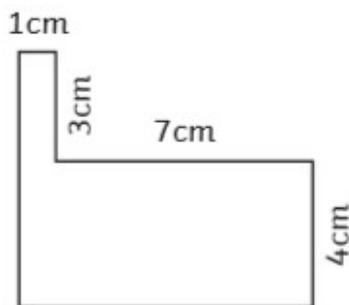
Area a: _____ cm^2

Area b: _____ cm^2 Total: _____ cm^2

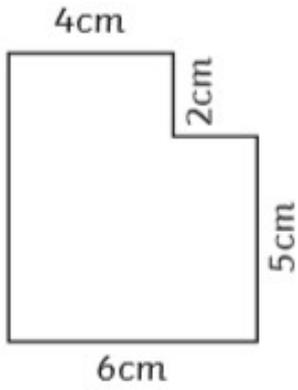


Area a: _____ cm^2 Area c: _____ cm^2

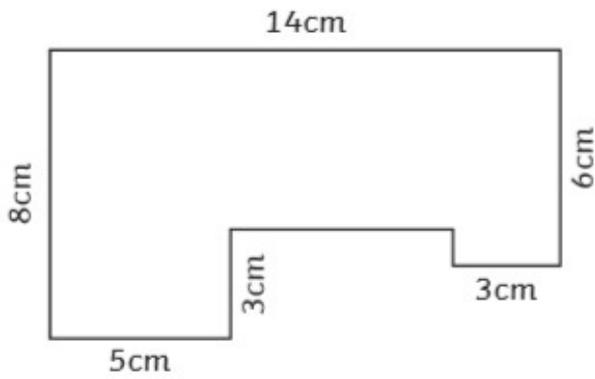
Area b: _____ cm^2 Total: _____ cm^2



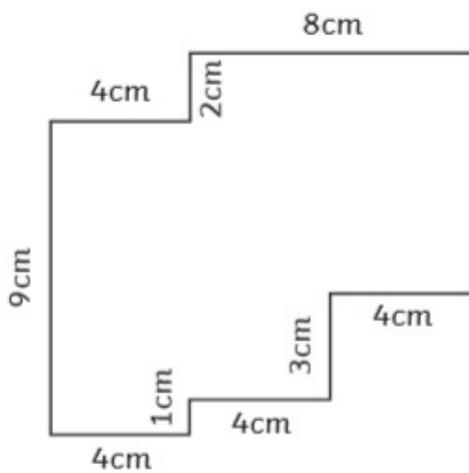
Total: _____



Total: _____



Total: _____



Total: _____



Challenge: Can you write your name in bubble writing and work out the area and perimeter of each letter?