

What is Perimeter and Area?

Perimeter

The perimeter is the distance around the outside or edge of a shape or area.

It can be measured in mm, cm, m or km

Area

The area is the total surface of a shape or space.

It can be measured in mm^2 , cm^2 , m^2 or km^2

Area and Perimeter

Area is the amount of space inside a 2D shape.

Perimeter is the total **distance** around the outside of a 2D shape.



Perimeter

distance AROUND an object

1. Measure each side.

2. Add all the sides together

A square with side lengths of 5 cm. The perimeter is calculated as $5 + 5 + 5 + 5 = 25$. The final result is Perimeter = 25 cm.

Area

Amount of space INSIDE an object

Count the squares inside the shape

1	2	3
4	5	6
7	8	9

Area = 9 sq cm

OR

Area = Length $\times$ Width

A square with side lengths of 3 cm. The area is calculated as $3 \times 3 = 9$. The final result is Area = 9 sq cm.

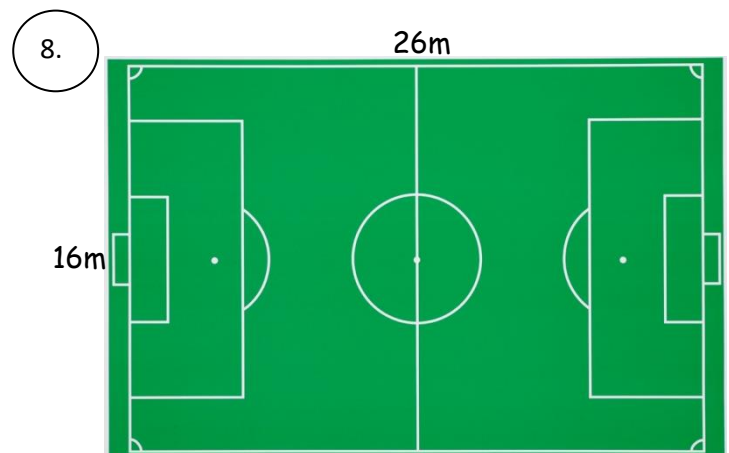
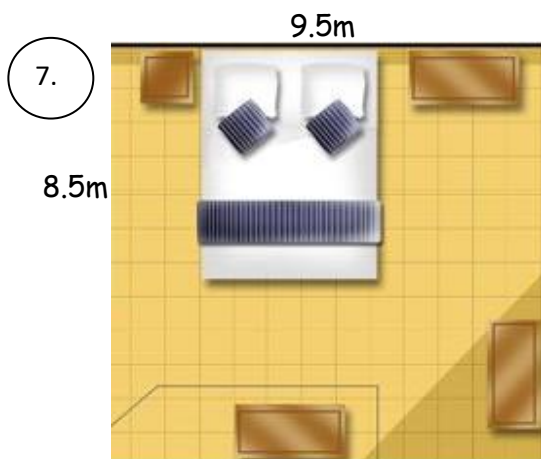
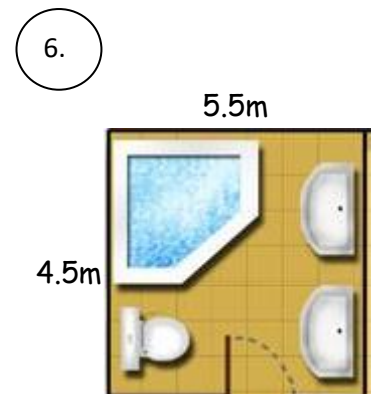
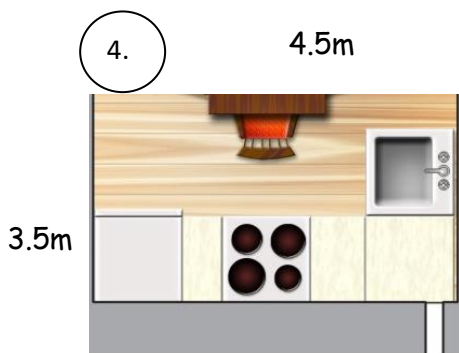
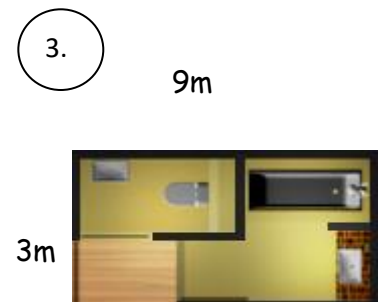
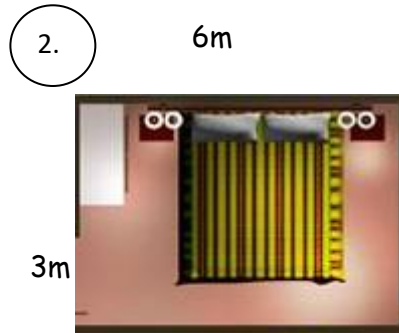
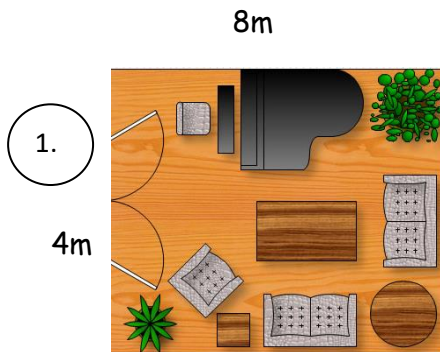
Task 1:



I can calculate the perimeter of shapes

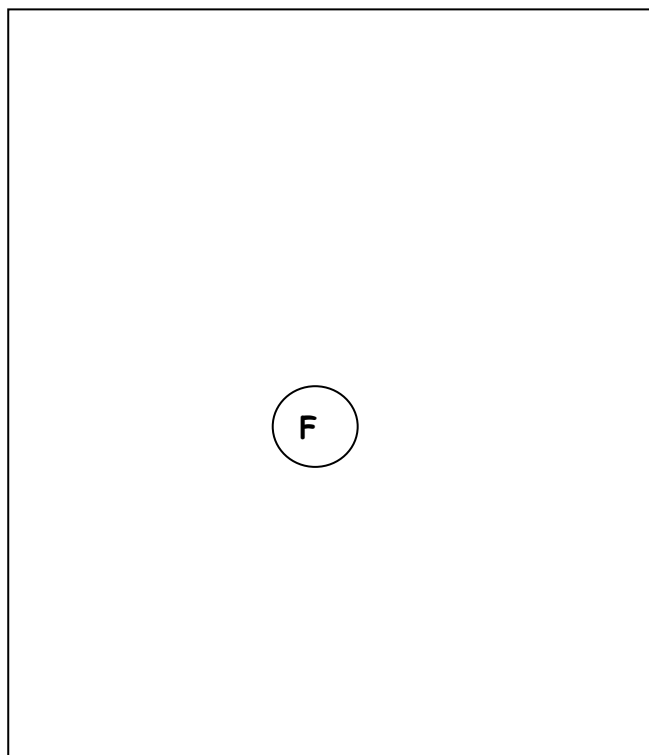
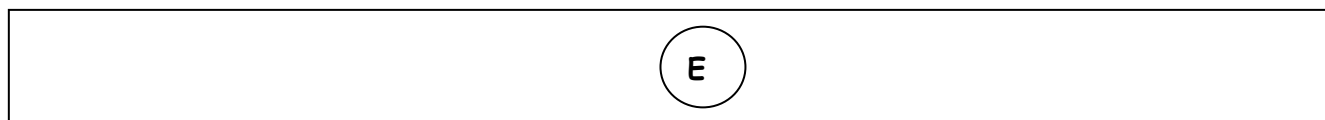
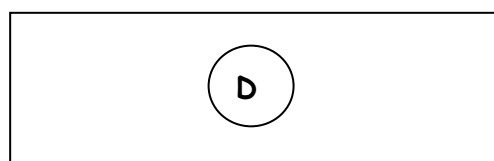
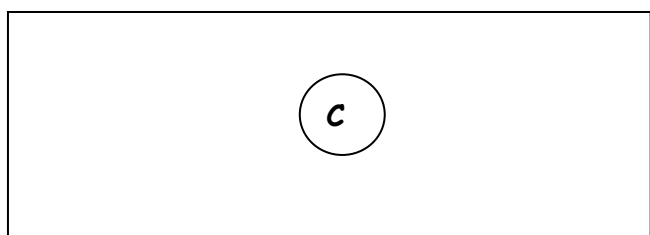
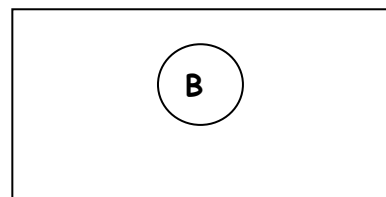
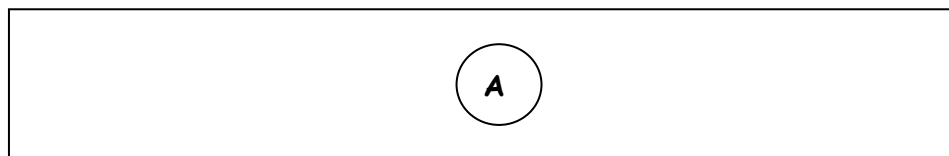


Scampi and George (two ferrets) are exploring an enormous mansion. They explore every room and begin by scampering all the way around the perimeter of each room. Find out what the perimeter of each room is that they explore:



Task 2:

Measure the sides of these rectangles and then calculate the perimeter of them:



Task 3:

Have a go at finding the perimeter of these more complex shapes

Handy Hints:

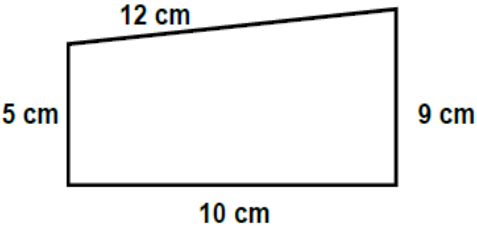
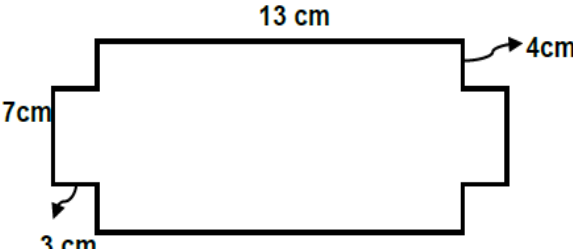
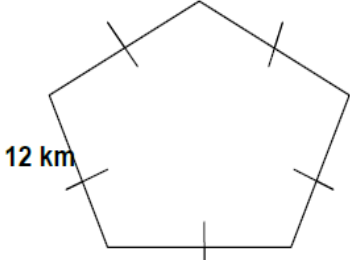
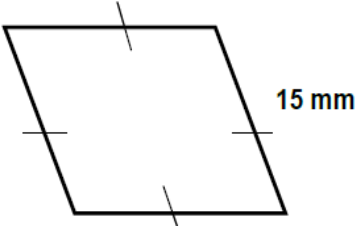
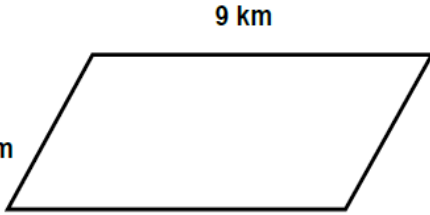
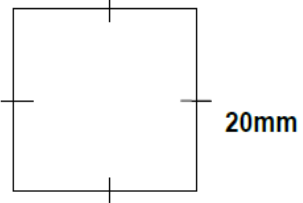
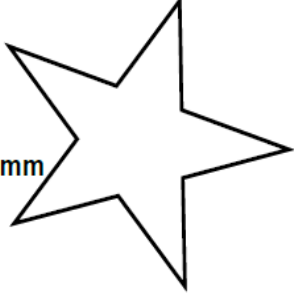
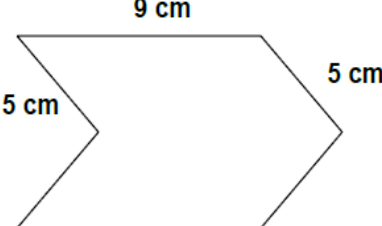
Perimeter of Rectangle = (width + length) $\times$ 2

OR

Perimeter of Square = length of one side $\times$ 4

OR

Perimeter of irregular shapes = add all the sides up.

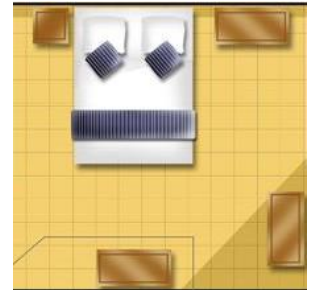
 Perimeter : _____	 Perimeter : _____
 Perimeter : _____	 Perimeter : _____
 Perimeter : _____	 Perimeter : _____
 Perimeter : _____	 Perimeter : _____

Task 4:

I can investigate Perimeters in my house and garden:

Can you measure any objects in your house and garden and work out the perimeter of these too?

I do not expect you to be able to measure the perimeter of each room or your whole garden but maybe objects within them or parts of them e.g. Book? Pencil? Bed? Bath? Sofa? Lawn? Shed? Trampoline?



Remember that Perimeter is usually used to measure 2D objects so be careful. Imagine looking at it from bird's eye view, like in task 1, and measure the sides needed. So if I was measuring the perimeter of my bed, I would imagine it as a 2D shape and look at measuring length and width, but not height!

Can you find an object with the smallest perimeter?

What has the largest perimeter?

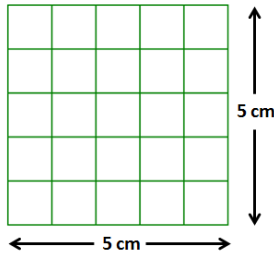
You may need to measure in mm, cm or m!

Have fun exploring!

[illegible]

Task 5:

For example...



$$5 \text{ cm} \times 5 \text{ cm} = 25 \text{ cm}^2$$

This square has sides that are 5 cm in length.

To find the area of the square we could count the squares. Or, a quicker way is to multiply the lengths of the two sides.

We need to remember to write the correct unit of measure –

centimetres squared
cm²

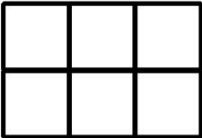


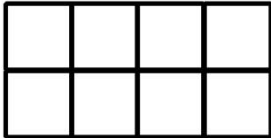
Area

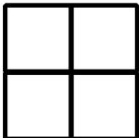
A measure of **how much space** there is on a surface.

Area is measured in **square units**.

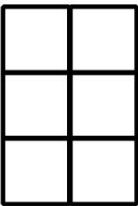
Find the area

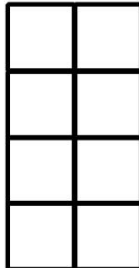
1.  = ____ cm²

2.  = ____ cm²

3.  = ____ cm²

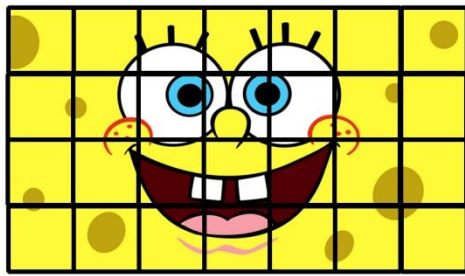
4.  = ____ cm²

5.  = ____ cm²

6.  = ____ cm²

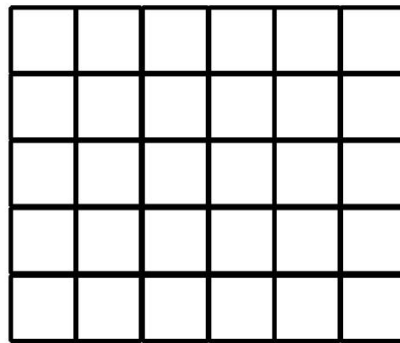
Find the area

1.



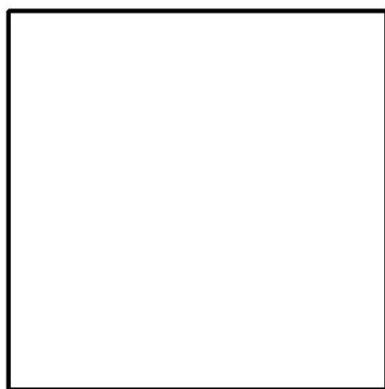
=

2.



=

3.



5 cm

5 cm

=

4.

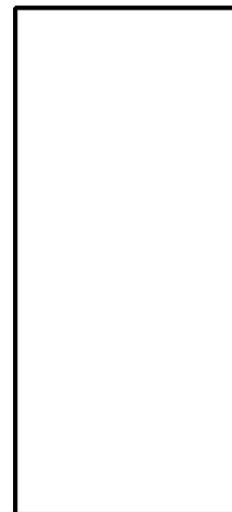


6 cm

3 cm

=

5.



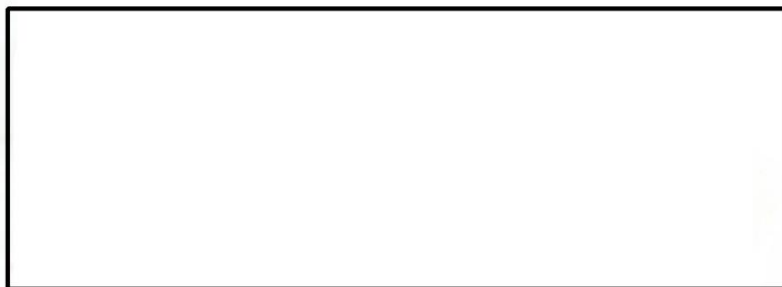
9 cm

4 cm

=

6.

12 cm



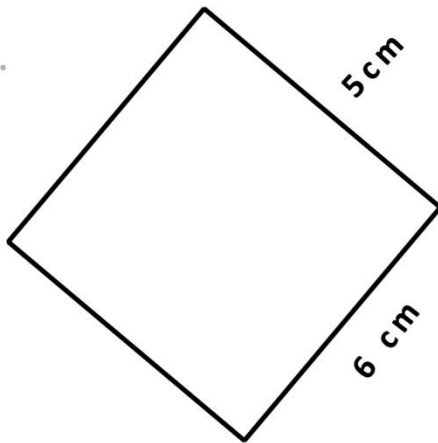
6 cm

=



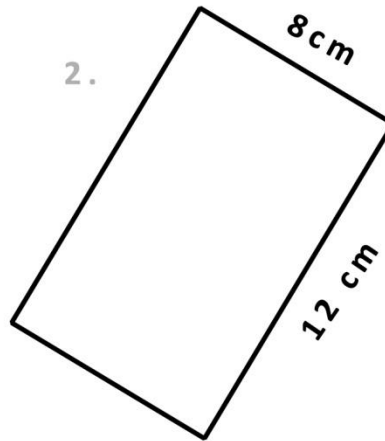
Find the area

1.



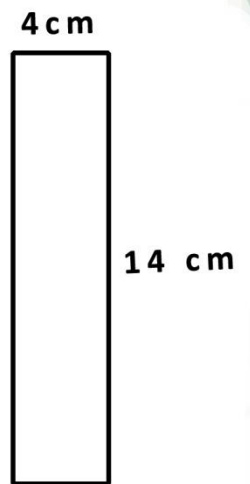
= _____

2.



= _____

3.



= _____

4.



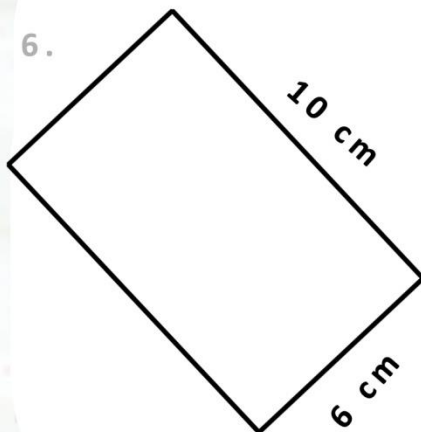
= _____

5.



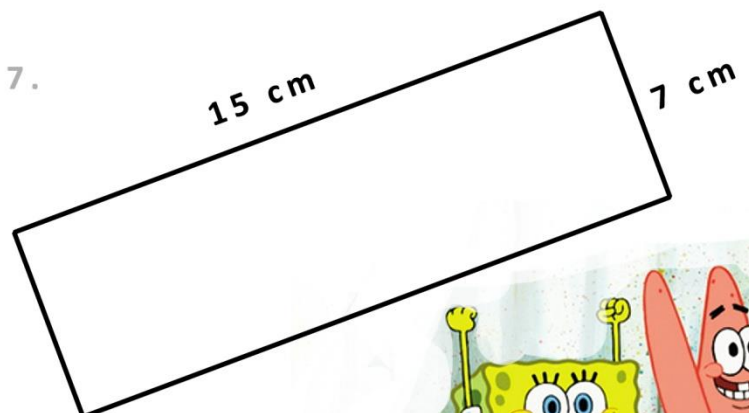
= _____

6.



= _____

7.



= _____



Task 6:

Use the squared paper on the next page to write your name using the squares and a ruler to help.

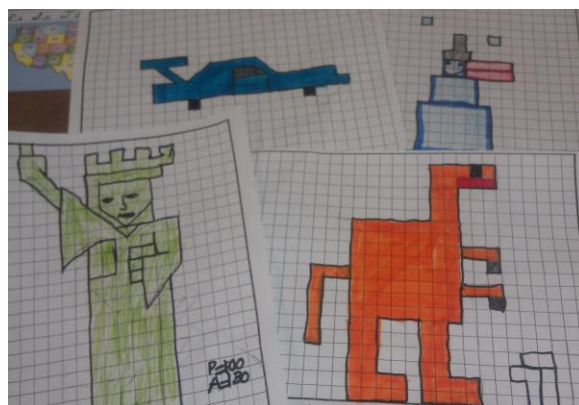
Next, you have to find the area and perimeter of each letter and add these together to find the area and perimeter of your entire name. Remember to bring this back to school or discuss your results with friends so that you can compare the sizes of your letters and names.

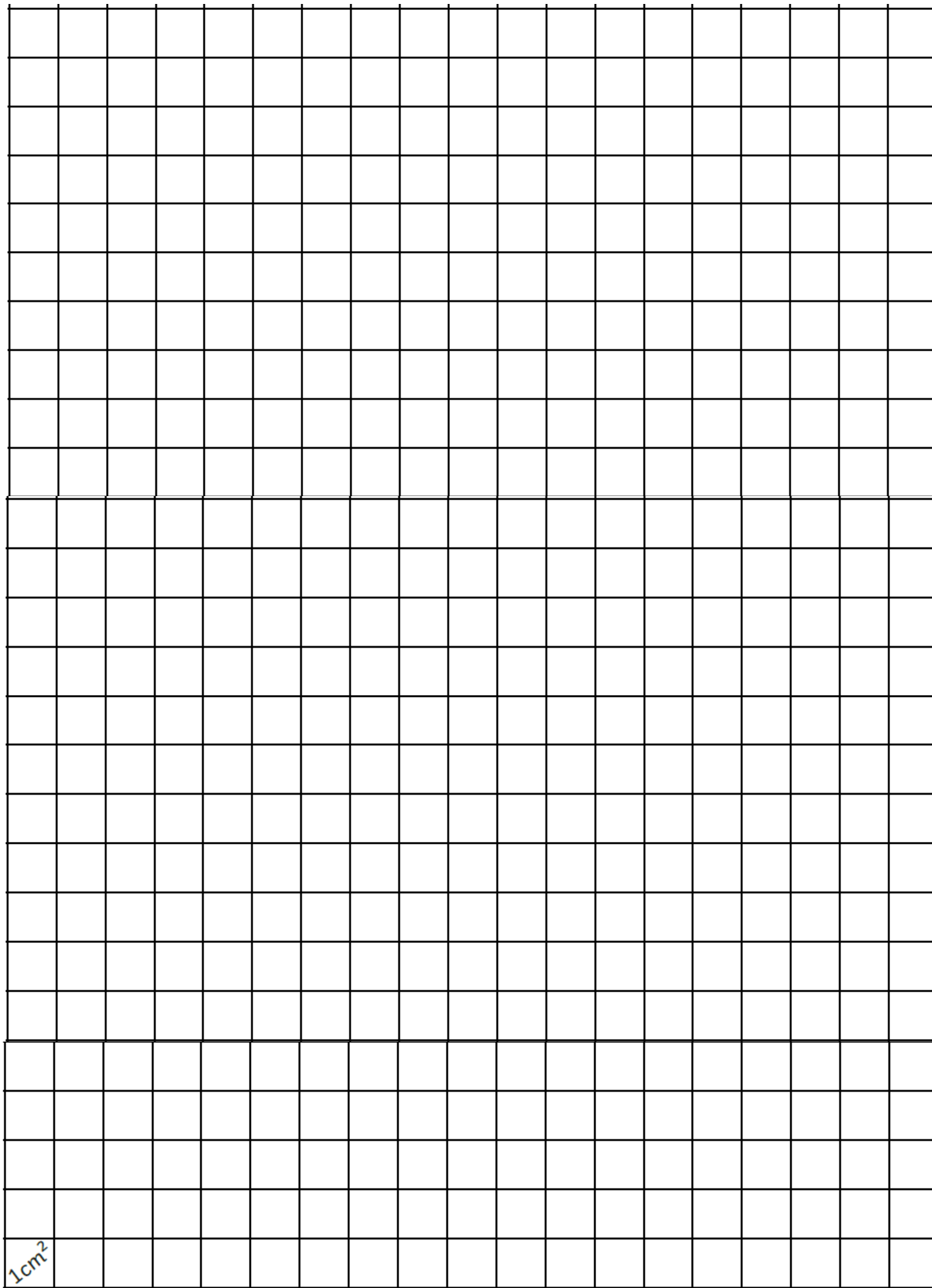
Have fun!



Task 7:

Also using squared paper, try getting in touch with your inner artist and create a range of animals/people/ robots/ aliens / characters and then determine their area and perimeter.





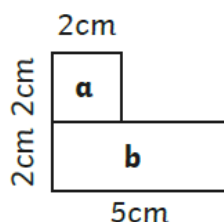
Task 8:

Area of Compound Shapes

I can calculate the area of compound shapes.

Calculate the area of each rectangle, then calculate the area of the whole compound shape.

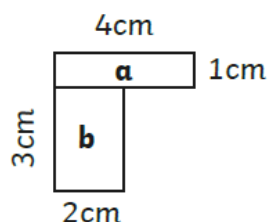
1.



Area a: _____ cm^2

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

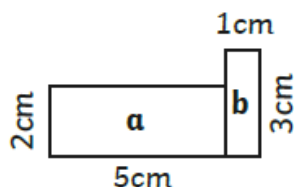
2.



Area a: _____ cm^2

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

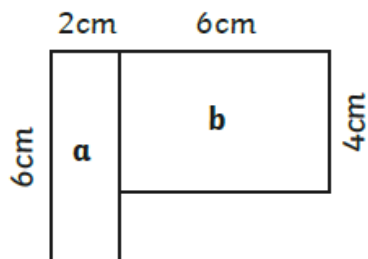
3.



Area a: _____ cm^2

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

4.

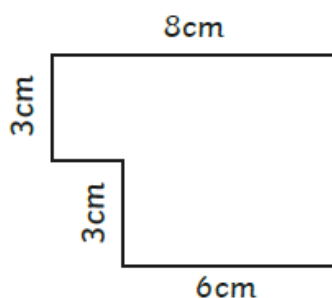


Area a: _____ cm^2

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

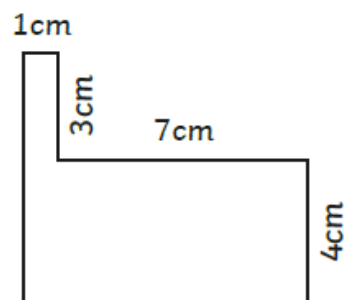
Identify the shapes where the area can be calculated. Calculate the area of each compound shape.

1.



Total: _____

2.



Total: _____

Task 9:

AREA & PERIMETER

WORDED PROBLEMS

Answer the questions below, giving the area and the perimeter.

1. A rectangular field measures 10ft by 3ft. What is the area? What is the perimeter?

Area _____ Perimeter _____

2. A Square shaped room measures 8m on one side.
What is the area? What is the perimeter?

Area _____ Perimeter _____

3. Mary wants new carpet for her dining room. The room is a rectangle and measures 12ft by 6ft. What is the area? What is the perimeter?

Area _____ Perimeter _____

4. Larry needs new curtains. His window is a rectangle, and measures 2m by 1.5m.
What is the area? What is the perimeter?

Area _____ Perimeter _____

5. If the area of a square is 100cm^2 , what is the length of each side? What is the perimeter?

Length of each side _____ Perimeter _____

6. If a rectangular football pitch has sides measuring 20m and 18m, what is the area?
What is the perimeter?

Area _____ Perimeter _____