Maths- Skills

Learning objective; To calculate the perimeter and area of rectangles.

Warm up - mental multiplication

You will need to do a lot of multiplying to find the area of rectangles, can you complete these multiplications.

You may want to time yourself or set yourself a target time to complete them in.

Find the product.

1. $2 \times 8 =$ _____
2. $6 \times 10 =$ _____
3. $9 \times 9 =$ _____
4. $3 \times 10 =$ _____
5. $4 \times 7 =$ _____
6. $4 \times 5 =$ _____
7. $5 \times 2 =$ _____
8. $6 \times 9 =$ _____
9. $10 \times 8 =$ _____

Area of a rectangle

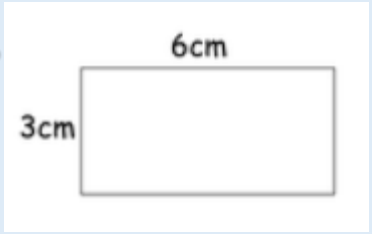
The area is the size of the space inside a shape.

To calculate the area of a rectangle you need to multiply the height (also known as length) by the width.

Check out this video; https://www.youtube.com/watch?v=Qv3EGzRmCYc

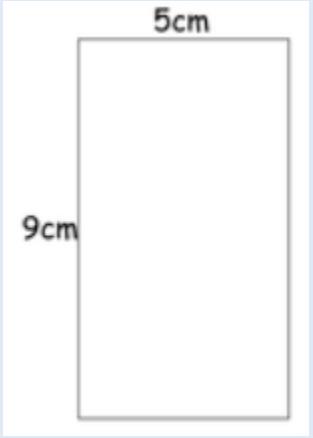
What is the area of these three rectangles? Don't forget to record your answer with a ^{2} symbol.

a.



b.

c.



Answers on next slide

Previous answers; a= 18cm² b= 16cm² c= 45cm²

Perimeter of a rectangle

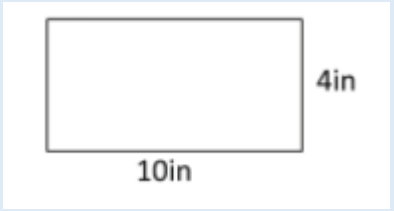
The perimeter is the distance around the outside of a shape.
A rectangle has 4 sides so you will need to add the 4 sides together.
The height (also known as length) will be the same on both sides of the rectangle.
The width will also be the same on both the top and the bottom.

This means we can simply add the height to the width, and then multiply it by 2.

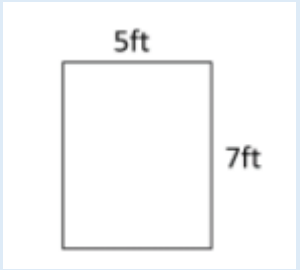
Check out this video to show three possible methods of finding the perimeter of a rectangle;
https://www.youtube.com/watch?v=ewRyANAEz5Y

What is the perimeter of these rectangles?

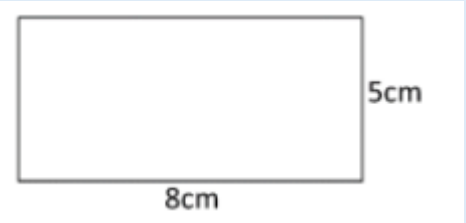
a.



b.



c.



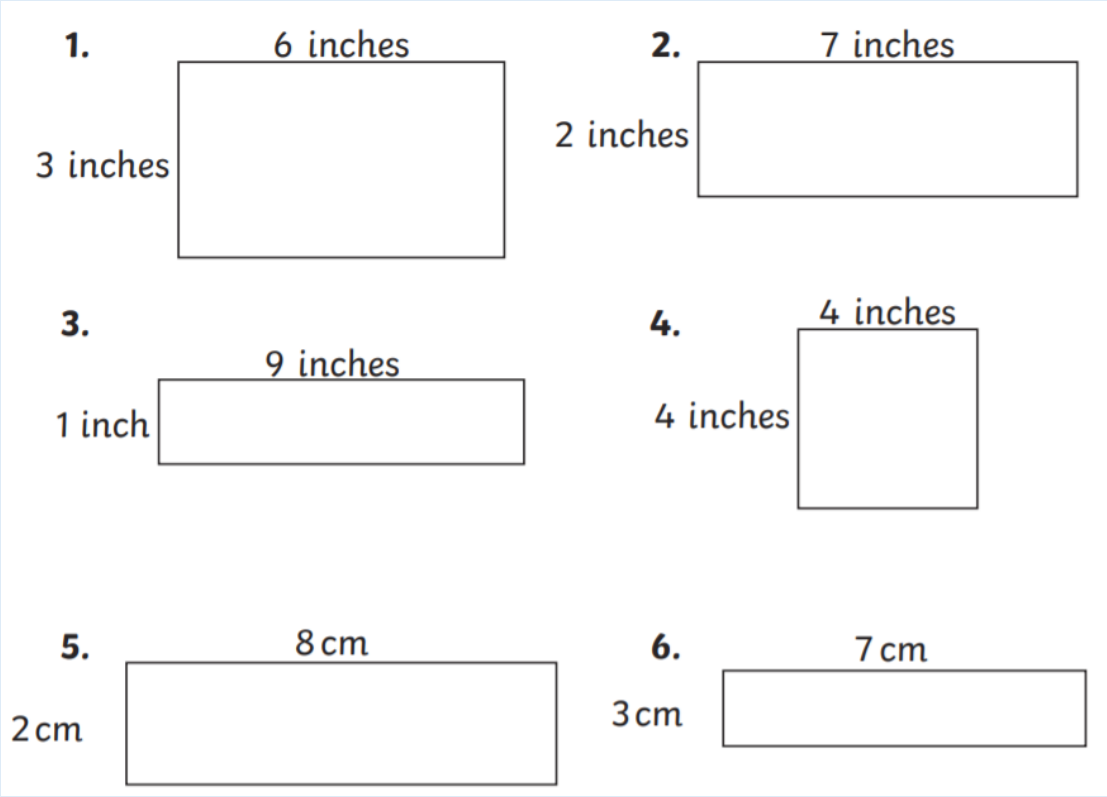
Answers on next slide

Previous answers; a= 28in b= 24ft c= 26cm

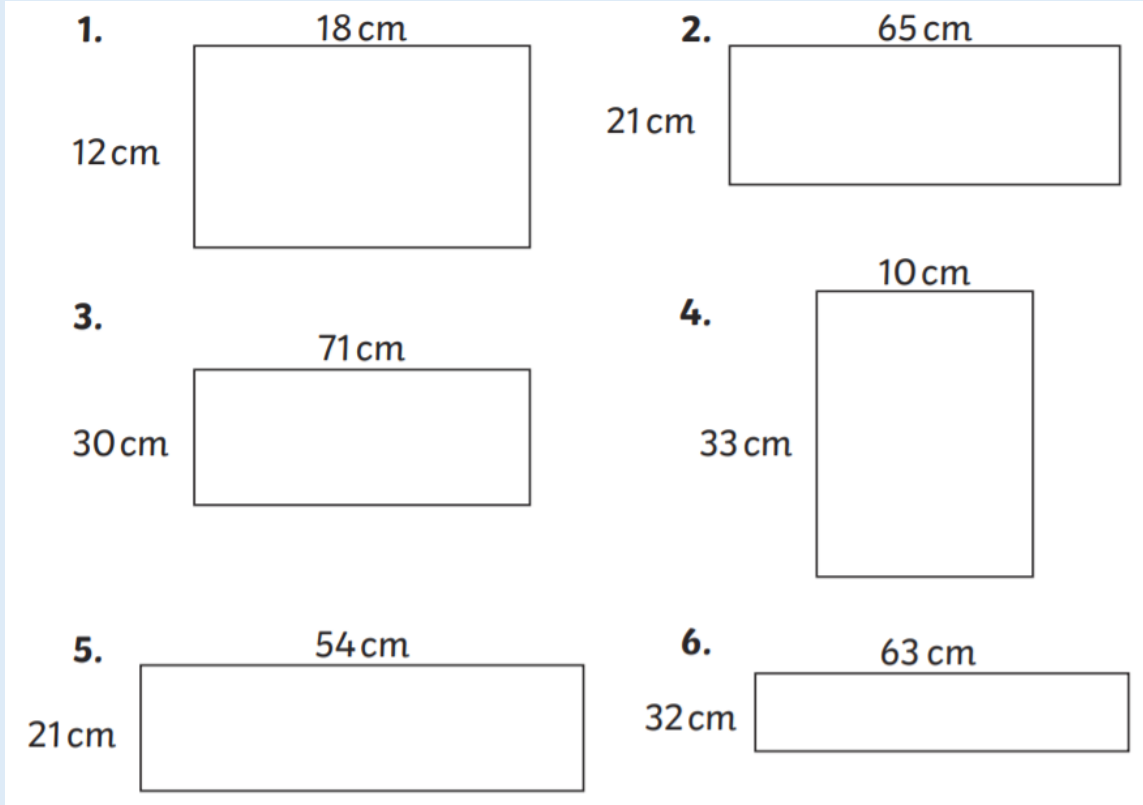
Fluency

Find the area and perimeter of these shapes. There are 2 difficulties to try from. You do not need to draw the shapes. In your book place the question number then A= ……. P=…….

1*



3*



Answers

1*

1. A= 18 in² P= 18 in
2. A= 14 in² P= 18 in
3. A= 9 in² P= 20 in
4. A= 16 in² P= 16 in
5. A= 16 cm² P= 20 cm
6. A= 21 cm² P= 20 cm

3*

1. A= 216 cm² P= 60 cm
2. A= 1365 cm² P= 172 cm
3. A= 2130 cm² P= 202 cm
4. A= 330 cm² P= 86 cm
5. A= 1134cm² P= 150 cm
6. A= 2016 cm² P= 190 cm

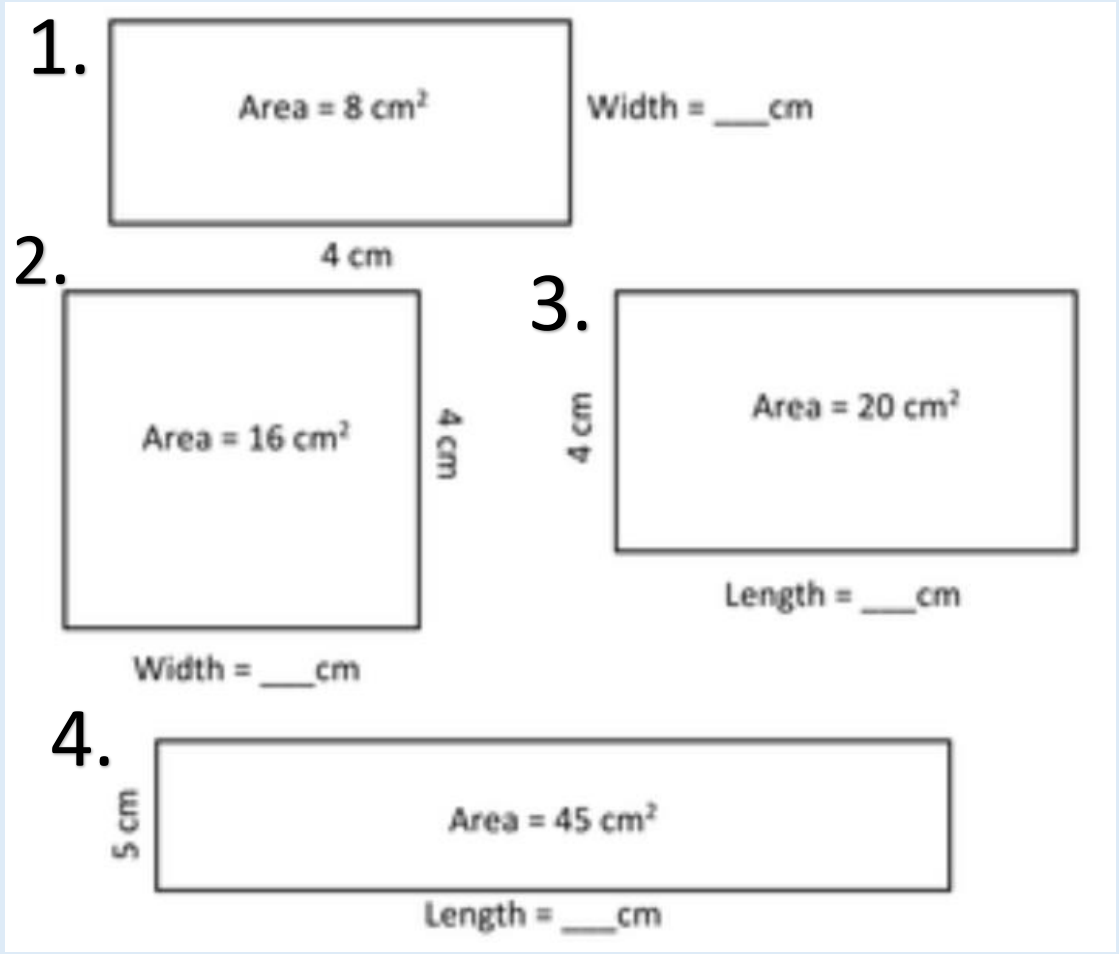
Reasoning- missing number

We may need to use our knowledge around area to find the size of missing sides.
In these questions we have the area of each shape.

We then need to use the **inverse** to find the width or length.
So. Normally we would work out Area = L x W
but now we have the area we will need to use a division.

Area ÷ L (we know)= W (we don't know)

e.g. 1. 8 ÷ 4 = (missing width)
1. Width = 2cm



Previous answers; 2= 4cm 3= 5cm 4= 9cm

Plenary

Try these word problems

1. Each table in a classroom is 110cm long and 55cm wide. What is the area of each table in square centimetres and square metres?

_____

a) There are 16 tables in a classroom. What is the total area of the tables in the classroom in square metres?

_____