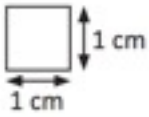
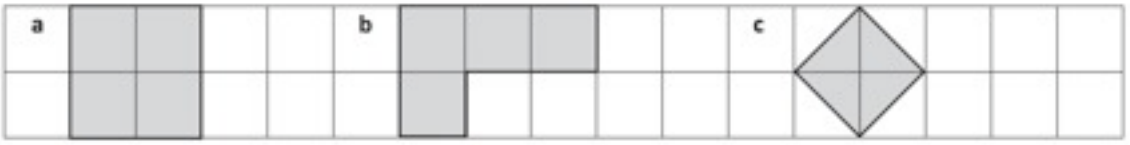
Measuring Area

Area – square units

Area is the amount of space a shape covers. It is a 2D measurement.
We measure area in square units. For small areas we use square centimetres.



1 **What is the area of each shaded shape? Each square has an area of 1 cm².**

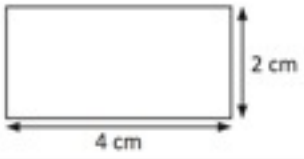


Area = ____ cm² Area = ____ cm² Area = ____ cm²

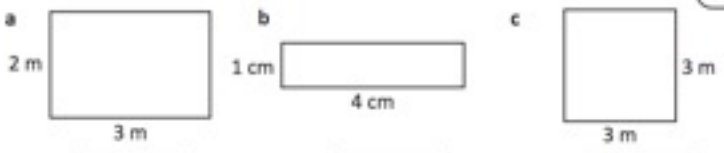
Area = ____ cm² Area = ____ cm² Area = ____ cm²

Area – find area using formulae

We can use this formula to find the area of rectangles.
Area = Length × Width
Area = 4 cm × 2 cm = 8 cm²



1 **Use the formula A = L × W to help you find the areas* of:**



A = ____ A = ____ A = ____

*Not drawn to scale.

2 **Find the area of the following:**

a A rectangle measuring 8 cm × 5 cm ____

b A box measuring 30 cm × 7 cm ____

c A pool measuring 25 m × 10 m ____

d A phone measuring 4.5 cm × 10 cm ____

e A book measuring 35 cm × 12 cm ____

f A field measuring 60 m × 25 m ____

g A town square with 4 sides of 10 m ____

h A rug measuring 10.2 m × 3.4 m ____

3 **Answer these area word problems:**

a Marianne wants to buy new carpet for her bedroom. Her room is 3 m × 4 m and the carpet she wants costs $50 per m². How much will the new carpet cost her?

b A book is 12 cm longer than it is wide. If it is 10 cm wide, what is the area of the book?

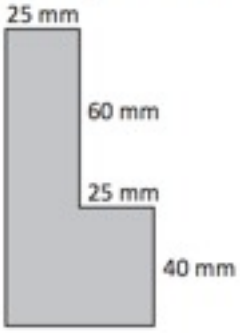
c A garden has an area of 35 m². If the garden is 7 m long, what is its width?

d The area of a rectangle is 48 cm². What might be the length and width?
Come up with 2 options:

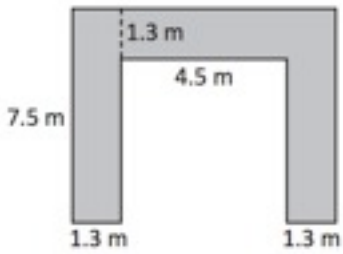
Option 1 L = W =

Option 2 L = W =

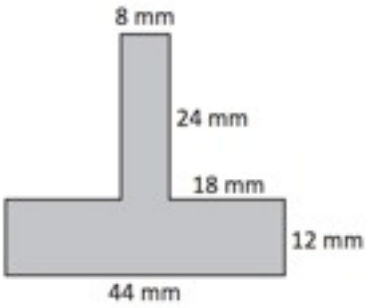
4 **Work out the perimeter of these shapes* using the known measurements to guide you:**



a P =



b P =

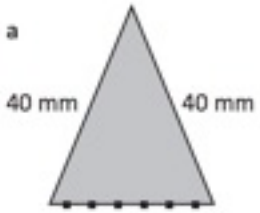


c P =

*Not drawn to scale.

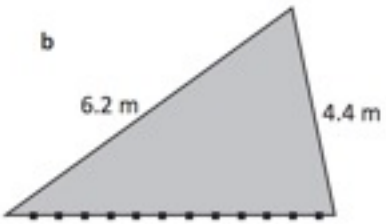
5 **What is the length of the dotted line in each shape*?**

a



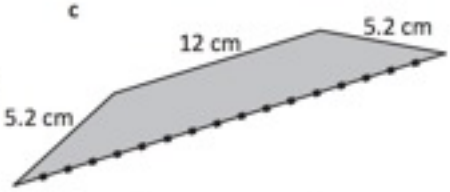
P = 110 mm

b



P = 16.6 m

c



P = 44 cm

Area – find area using formulae

Each triangle is half of a rectangle.
To find the area of a triangle, we find the area of the rectangle and then divide by two.

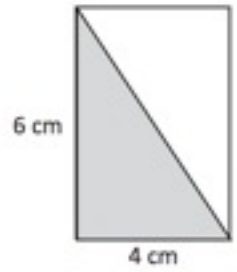
Rectangle = 8 cm × 4 cm = **32 cm²**
Triangle = 32 cm² ÷ 2 = **16 cm²**
The formula for this is:
$\frac{1}{2}$ **Base × Height**

4 **Find the area of the shaded triangles inside the rectangles*:**

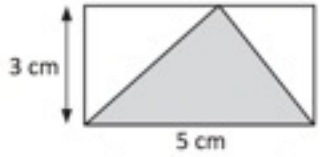
a Area = ____ cm²

b Area = ____ cm²

c Area = ____ m²



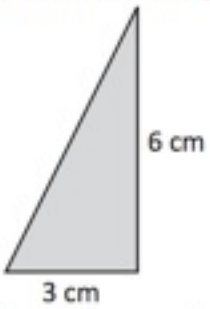
d Area = ____ cm²



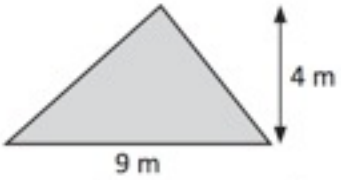
e Area = ____ cm²

*Not drawn to scale.

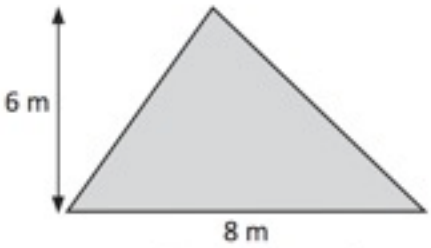
5 **Find the area of these triangles* using the formula $\frac{1}{2}$ Base × Height:**



a Area = ____ cm²



b Area = ____ m²



c Area = ____ m²

d A triangle with a base of 12 cm and height of 7 cm ____

e A triangle with a base of 17 m and a height of 14 m ____

f A triangle with a base of 10.2 m and a height of 9 m ____