The walls of a house need to be painted with masonry paint.

In this activity you will work out the amount of paint needed and how much it will cost.

Student information sheet: Part A

The paint is sold in 5-litre tins.

One tin costs £31.99.

A litre of paint covers 6 m^2.

Masonry paint

£31.99 for a 5-litre tin

Coverage: 6 m^2 per litre

The walls of the house are shown in the elevations on Parts B and C of this information sheet.

The elevations are all drawn to a scale of 1 : 100.

Think about

What does this scale mean?

What units are used on the ruler below?
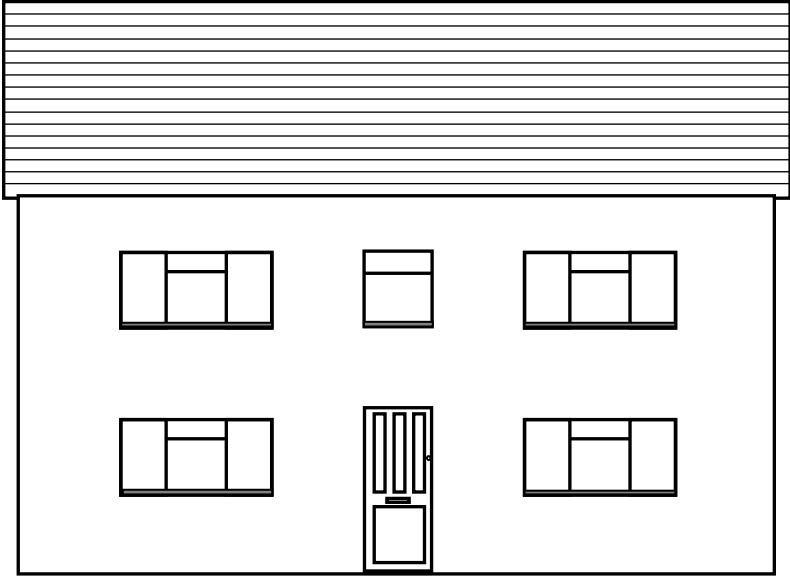
What is this measurement?

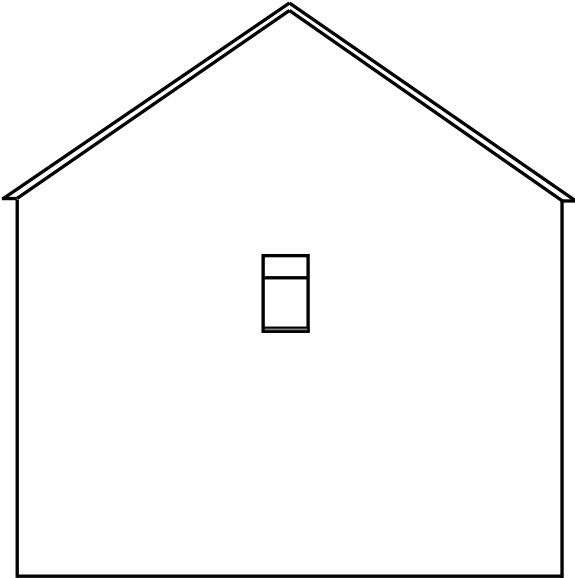| **Conversions**	1 m = 100 cm or 1000 mm
	1 cm = 10 mm

North-facing wall

Scale 1 : 100

East-facing wall

Think about

How can you use the scale?
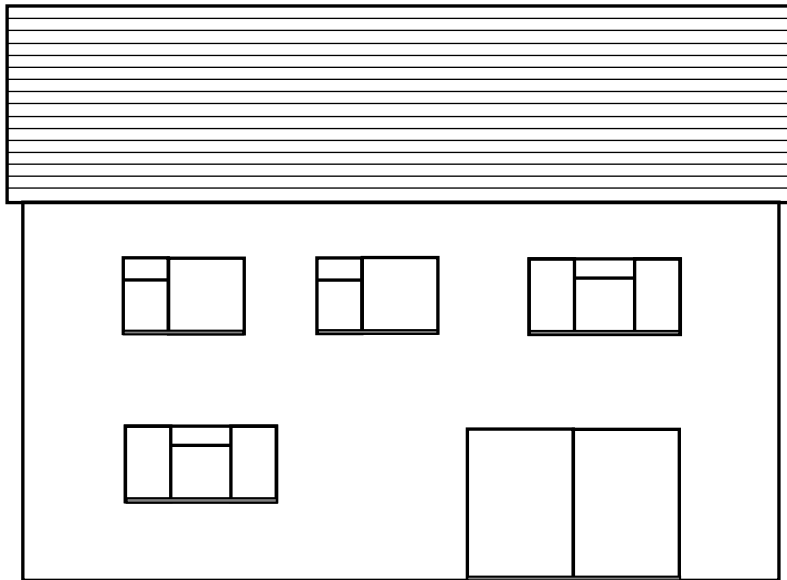
South-facing wall

Scale 1 : 100
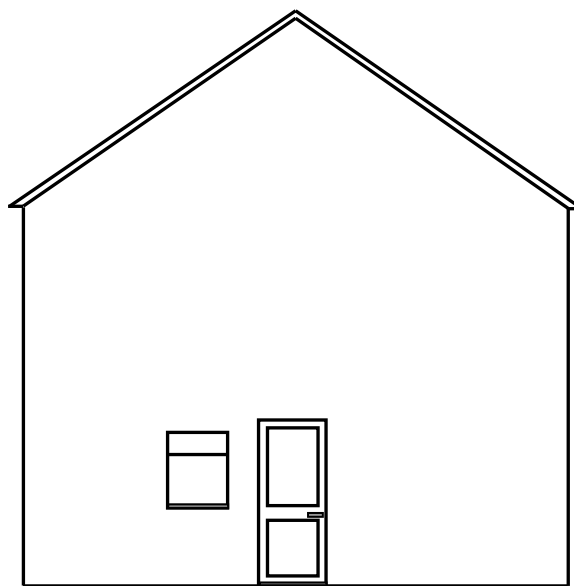
West-facing wall

Think about

What do you need to do to work out how much it costs to paint the house?

To answer: Try these

North-facing wall

Use **Part B** of the student information sheet for these calculations.

First measure the lengths you need on the elevation of the north-facing wall.
Write the measurements in the table.

Then calculate the areas.

	Length (m)	Height (m)	Area (m^2)
Whole wall (including door and windows)			
Large windows			
Small window			
Door			

Subtract the area of the door and all the windows from the area of the
whole wall. This will find the area to be painted.
(Use the space below for working if you wish.)

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……..

Area to be painted on the north-facing wall = ……………………………………………………………

East-facing wall

Use **Part B** of the student information sheet for these calculations.
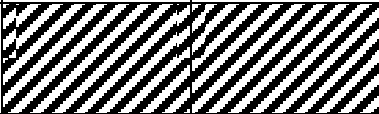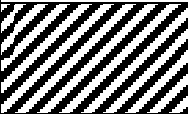
Split the wall into a rectangle and a triangle.

Find the area of the rectangle and the area of the triangle.
Put your answers in the table.

Add together the area of the rectangle and the triangle to find the area of the whole wall.

Complete the table by finding the area of the window.

	Length (m)	Height (m)	Area (m^2)
Rectangle			
Triangle			
Whole wall (including window)	///////	///////	
Window			

Subtract the area of the window from the area of the whole wall.
This will find the area to be painted.

……

……

Area to be painted on the east-facing wall = …………………………………………………………………

South-facing wall

Use **Part C** of the student information sheet to answer these questions.

Fill in the table then find the area to be painted.

	Length (m)	Height (m)	Area (m²)
Whole wall (including patio door and windows)			
Patio door			
Large windows			
Small windows			

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....

Area to be painted on the south-facing wall = ...

West-facing wall

Use **Part C** of the student information sheet to answer these questions.

Fill in the table then find the area to be painted.

	Length (m)	Height (m)	Area (m²)
Rectangle			
Triangle			
Whole wall (including door and window)	////////	////////	
Window			
Door			

....

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....

Area to be painted on the west-facing wall = ...

Use your answers and Part A of the information sheet to answer these questions.

What is the total area to be painted?

……

How much paint will it take?

 ……

How many tins of paint will it take?

……

How much will it cost?

……

At the end of the activity

The scale of the elevations was 1 : 100.

If a scale of 1 : 50 was used instead, what would happen to the elevations?

Would your answers be more or less accurate?