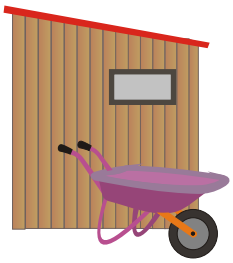
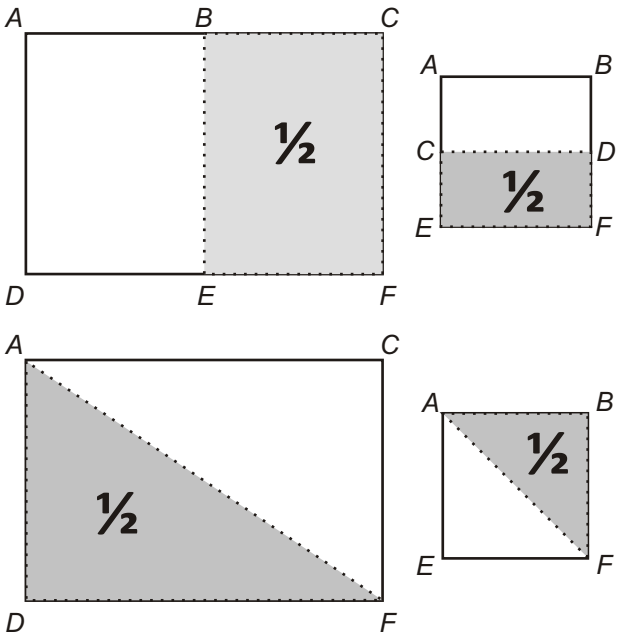


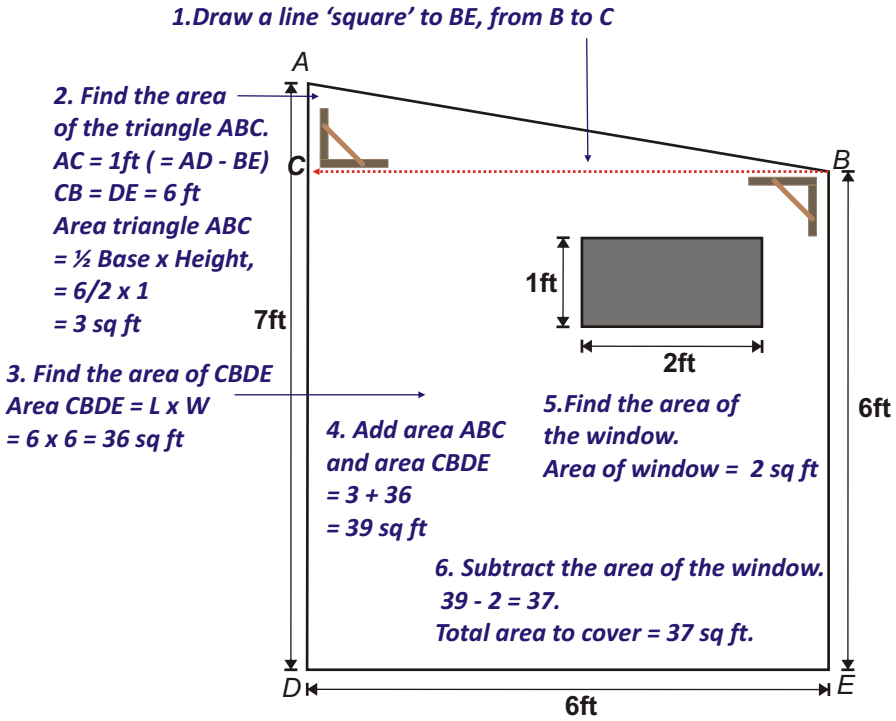
Area of Right-Angled Triangles

We use the formula **Area = L x W** to find the area of a rectangle or a square.
We can see what happens when we split a rectangle or square into two horizontally or vertically.
For example, the area of ABDE = area BCEF and the area of rectangle BCEF is half of the area of the rectangle ACDF.
But we can also split a rectangle or square into two diagonally.
We can see that the **area of the right-angled triangle ADF is half of the area of the rectangle ACDF.**
We get a another very useful formula from this:
The **area of a right-angled triangle = ½Base x Height**



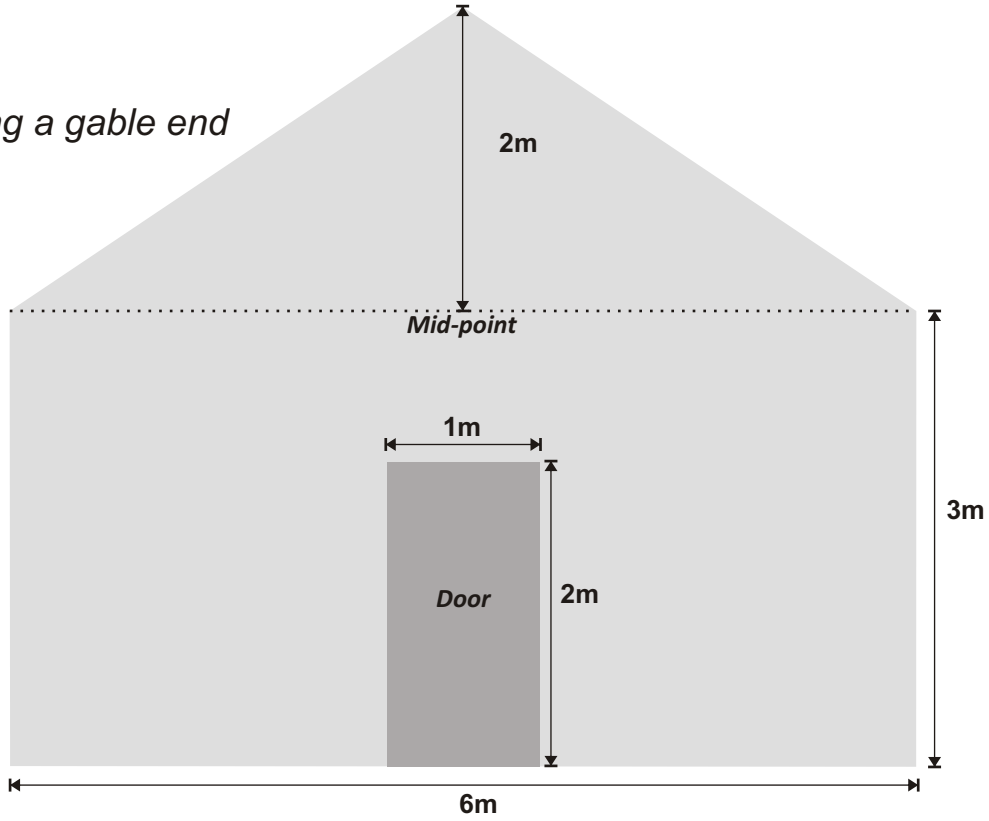
Example - building a lean-to shed

Suppose we want to cover the side of a lean-to shed with timber.
We can de-compose the area we want to cover into shapes we can easily work with.
The side of the shed is a right-angled triangle sitting on top of a square, and the window is a rectangle.
We can find the area of the triangle using the formula:
A = ½ B x H
We can find the area of the square and the rectangle using the formula:
A = L x W
To find how much timber we need ,we add the area of the triangle and the square. We don't want to cover the window, so we can subtract the area of the rectangle from our previous total.
We need 37 square feet of timber to cover the side of the shed.
If the timber costs $2 per sq ft, the cost will be 2 x 37 = $74.00



Exercises

T4
Painting a gable end



You want to paint the gable end of a house.
You don't need to paint the door.

Look at the diagram above, and the answer the questions below.
Label and draw on the diagram to help you, and use the space at the bottom of the page to work out your answers.

1. How much area do you need to paint? _____

.A litre can of paint costs $5.50 and it will cover 8 square metres.

2.How many cans of paint will you need? _____

3. How much will the paint cost altogether? _____