Starting the job

When I start a new job in a garden I use string to mark out the perimeter of features.

Activity 6

Remember

Perimeter means the distance all around the outside of a shape.

John has to lay a patio measuring 2.4 m by 1.2 m.

To work out the length of string he needs to mark it out, John adds all the sides together. This is the **perimeter** of the patio.

John adds up the lengths of all 4 sides of the patio.

2.4 m + 1.2 m + 2.4 m + 1.2 m = 7.2 m

He needs 7.2 metres of string to mark out the patio.

Remember that all units must be the same.

Work out these perimeters.

1 A rectangular base for a garden shed measuring 2.1 m by 1.8 m.

.....

2 A triangular flower bed measuring 1.5 m by 1.5 m by 2.4 m.

.....

3 A raised bed 3 m long and 1 m wide.

.....

Draw sketches to help you

4 A path 4.3 m long and 75 cm wide.

.....

Activity 7

Remember

Area of rectangle = length × width,
A = l × w.

A wall in the garden is 2.4 m long and 600 mm high.

1 Area of the face of the wall = 2.4 m × 0.6 m = ☐

There are approximately 60 bricks per m^2 of area.

2 Number of bricks needed = area × 60 = ... bricks

To make sure that there are enough bricks John buys 10% more than his estimate.

Remember

An easy way to find 10% is to divide by 10.

3 10% of ☐ = ☐ extra bricks

4 Total number of bricks = ... + ... = ...

Activity 8

I have been asked to build a raised flower bed for a wheelchair user.

The flower bed is to be 3 metres long, 1 metre wide and 450 mm high. John needs to order the bricks so first he works out the area of each side.

1 Area of long side = 3 m × 450 mm = 3 m × ☐ m = ... m^2

2 Area of short side = ... m^2

3 Total area = 2 × long sides + 2 × short sides = ... m^2

There are approximately 60 bricks per m^2.

4 Number of bricks = area × 60 = ... bricks.

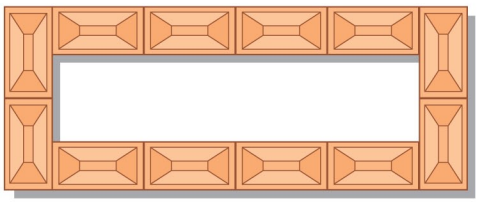
To make sure that he has enough bricks, John buys 10% more than his estimate.

5 10% of ☐ = ☐ extra bricks.

6 Total number of bricks ..... + ... = ...

Activity 9

Now I want to fill a different raised bed with soil. To work out the volume of soil I need I have to find the inside measurements of the bed.



Walls in a raised bed are one brick thick so to get the inside length, John has to take two brick widths from the outside measurement (one for each side).

With all these different measurements I have to cope with I am going to work in metres all the time.

A brick is 102.5 mm wide so two bricks are 2 × 102.5 = 205 mm = 0.205 m.

This raised bed is 2.5 m long, 0.75 m wide and 400 mm high.

1 a The inside length = 2.5 m – 0.205 m = 2.295 m
= ..... to 2 decimal places.

b Inside width = ... m – 0.205 m = ... m
= ..... m correct to 2 decimal places.

c Volume of soil = inside length × inside width × height = ... m^3

2 How much soil will be needed for my new raised bed 3 m long, 1 m wide and 450 mm high?

Use separate paper and follow the method shown in question 1.

Remember

Volume = length × width × height