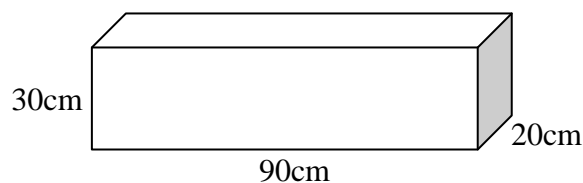


## Calculating the volume of a cube and cuboid

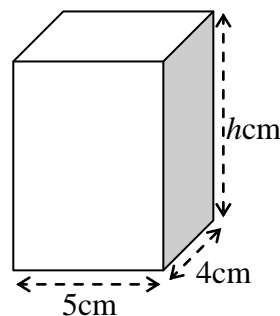
1. A garden water trough is in the shape of a cuboid which measures 90cm by 30cm by 20cm.



- (a) Calculate the number of litres that the trough holds when it is completely full. ( $1000\text{cm}^3 = 1 \text{ litre}$ )

[4]

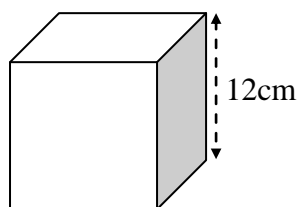
- (b) The water is used to fill 300 small cuboid shaped vases like the one shown in the diagram.



Calculate the height,  $h\text{cm}$ , of the vases.

[4]

2. An ornament is packaged in a cardboard box which is a cube of side 12cm.



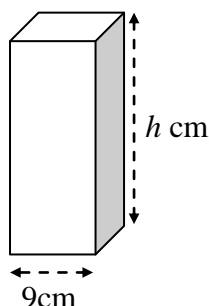
- (a) Find the volume of the box.
- (b) Calculate the area of card which would be needed to make the box. [Ignore any overlaps]

[2]

[2]

Another ornament is to be packed in a box which is a cuboid with **half** the volume of the cube.

This box is to have a square base of side 9cm.



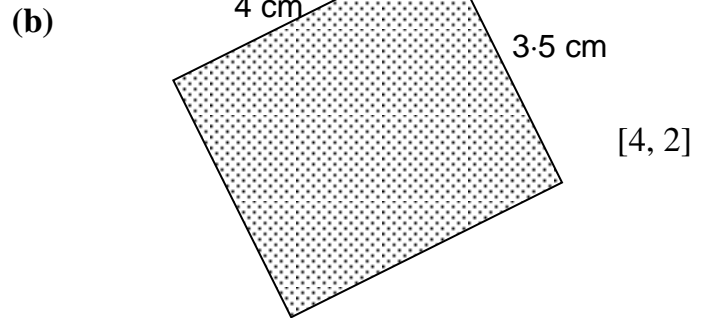
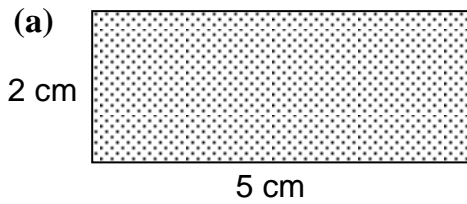
- (c) Calculate the height,  $h\text{cm}$ , of this new box giving your answer correct to 1 decimal place.

[4]

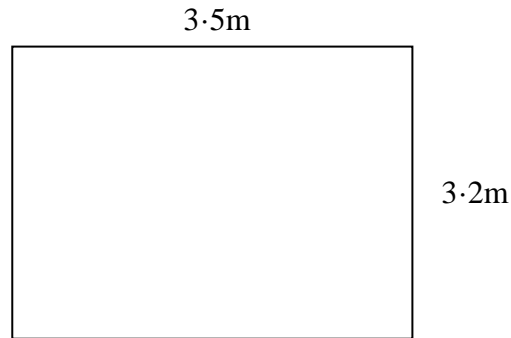
**[16marks]**

## Finding the area and perimeter of a shape

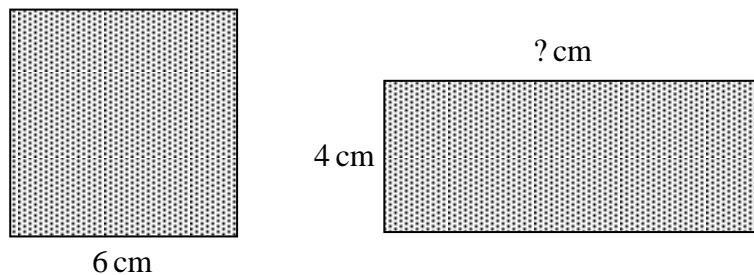
1. Calculate the perimeter and area of these rectangles:



2. My bedroom has dimensions as shown in the diagram.



- (a) Calculate the cost of carpeting the room if carpet costs £23.99 per square metre. [3]  
**[carpet is sold in whole square metres only]**
- (b) A border is to be put round the walls. Find the length of border required. [2]  
**[ignore any gaps for windows and doors]**
3. The square and the rectangle have the same perimeter. Find the missing length. [4]



**[15 marks]**