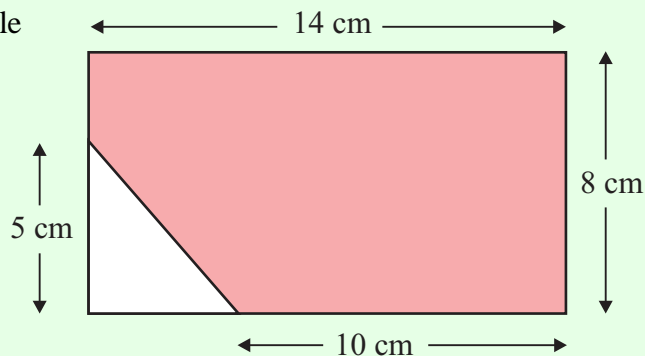## AREA & VOLUME (Q 1, PAPER 2)

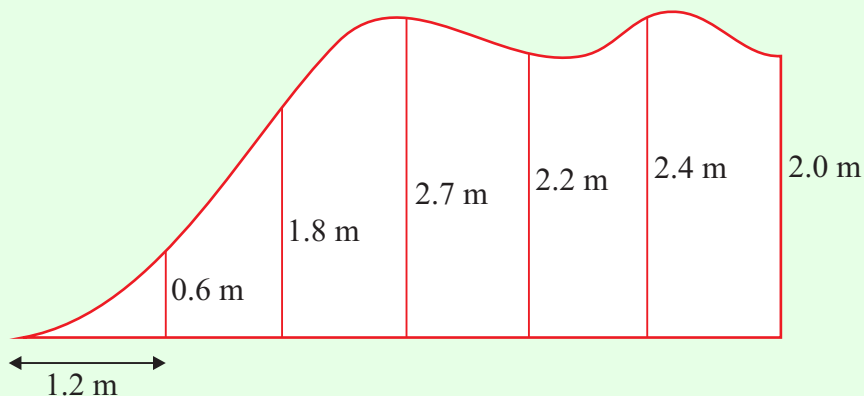## 2011

1. (a) (i) Calculate the area of the rectangle shown in the diagram.

(ii) Hence, calculate the area of the shaded region.

14 cm

8 cm

5 cm

10 cm

(b) The sketch shows a section of a wall that is to be painted.
At equal intervals of 1.2 m along the bottom of the wall, perpendicular measurements are made to the uneven edge, as shown on the sketch.

2.7 m   2.2 m   2.4 m   2.0 m

1.8 m

0.6 m

1.2 m

(i) Use Simpson's rule to estimate the area of the section of the wall.

(ii) How many litres of paint are required to paint the section of the wall, if 1 litre of paint covers an area of 2.2 m²? Give your answer correct to the nearest litre.

(c) A solid object consists of a cylinder with hemispherical ends, as shown.
The cylinder and hemispheres have the same radius.

The volume of each hemisphere is 144π cm³.

(i) Find the radius of each hemisphere.

(ii) The total volume of the object

is 144π cm³.

Find d, the length of the object.

d
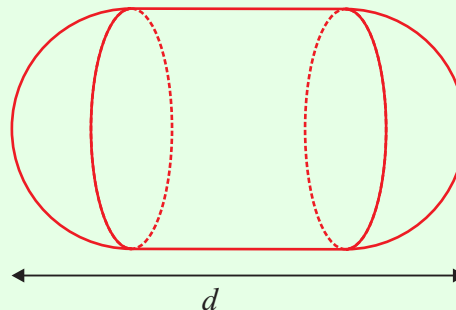
ANSWERS

1   (a) (i) 112 cm²   (ii) 102 cm²
    (b) (i) 13.12 m²   (ii) 6 litres
    (c) (i) 6 cm   (ii) 24 cm