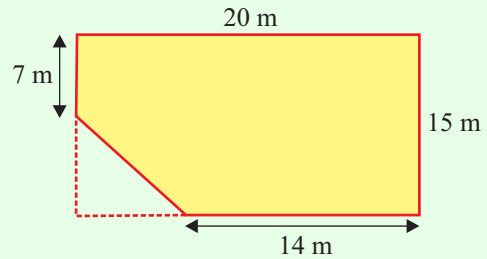


AREA & VOLUME (Q 1, PAPER 2)

2000

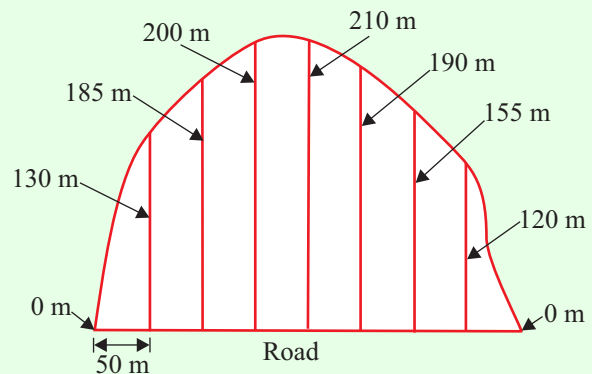
- 1 (a) Calculate the area of the shaded region in the diagram.



- (b) The sketch shows a piece of land covered by forest which lies on one side of a straight road.

At equal intervals of 50 m along the road, perpendicular measurements of 130 m, 185 m, 200 m, 210 m, 190 m, 155 m and 120 m are made to the forest boundary.

Use Simpson's Rule to estimate the area of land covered by the forest.
[See Tables, page 42.]



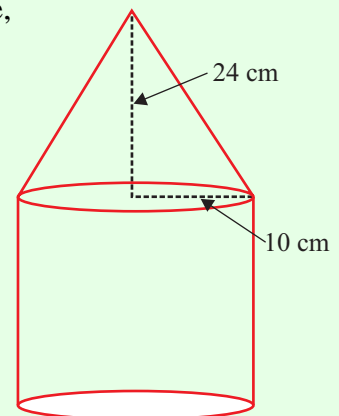
Give your answer in hectares.
[Note: 1 hectare = 10 000 m².]

- (c) A candle is in the shape of a cylinder surmounted by a cone, as in the diagram.

- ii (i) The cone has height 24 cm and the length of the radius of its base is 10 cm.
Find the volume of the cone in terms of π .

- i (ii) The height of the cylinder is equal to the slant height of the cone.
Find the volume of the cylinder in terms of π .

- (iii) A solid spherical ball of wax with radius of length r cm was used to make the candle.
Calculate r , correct to one decimal place.



ANSWERS

- 1 (a) 276 m²
(b) 6.1 hectares
(c) (i) 800π cm³ (ii) 2600π cm³ (iii) 13.7 cm