

11

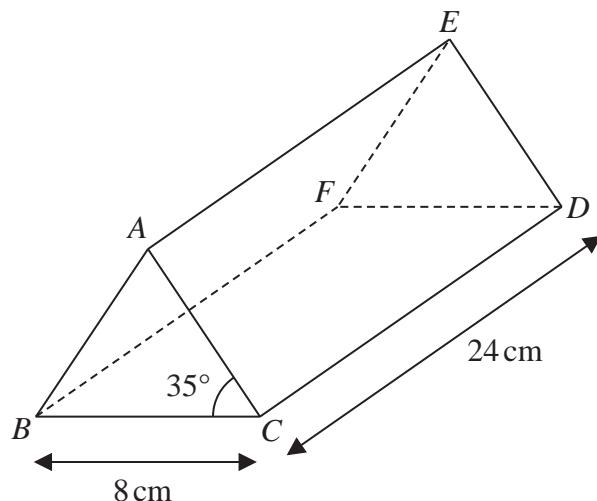


Diagram NOT
accurately drawn

Figure 3

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Figure 3 shows a solid right triangular prism $ABCDEF$.

A cross section ABC of the prism is an isosceles triangle in which $AB = AC$.

$$\angle ACB = 35^\circ \quad CB = 8 \text{ cm} \quad CD = 24 \text{ cm}$$

- (a) Calculate the total surface area, in cm^2 to 3 significant figures, of the prism.

(5)

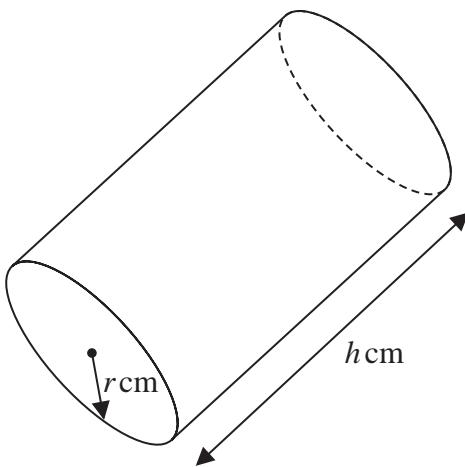


Diagram NOT
accurately drawn

Figure 4

Figure 4 shows a solid right circular cylinder with radius $r \text{ cm}$ and length $h \text{ cm}$.

The total surface area of the cylinder is $(224 + 60\sqrt{3})\pi \text{ cm}^2$

Given that $r = 3\sqrt{3} + 2$

- (b) find the exact value of h .

Show your working clearly and give your answer in the form $a\sqrt{27}$ where a is an integer.

(6)



Question 11 continued

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$$\left[\begin{array}{l} \text{Area of triangle} = \frac{1}{2} ab \sin C \\ \text{Curved surface area of cylinder} = 2 \pi r h \end{array} \right]$$



Question 11 continued

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(Total for Question 11 is 11 marks)

