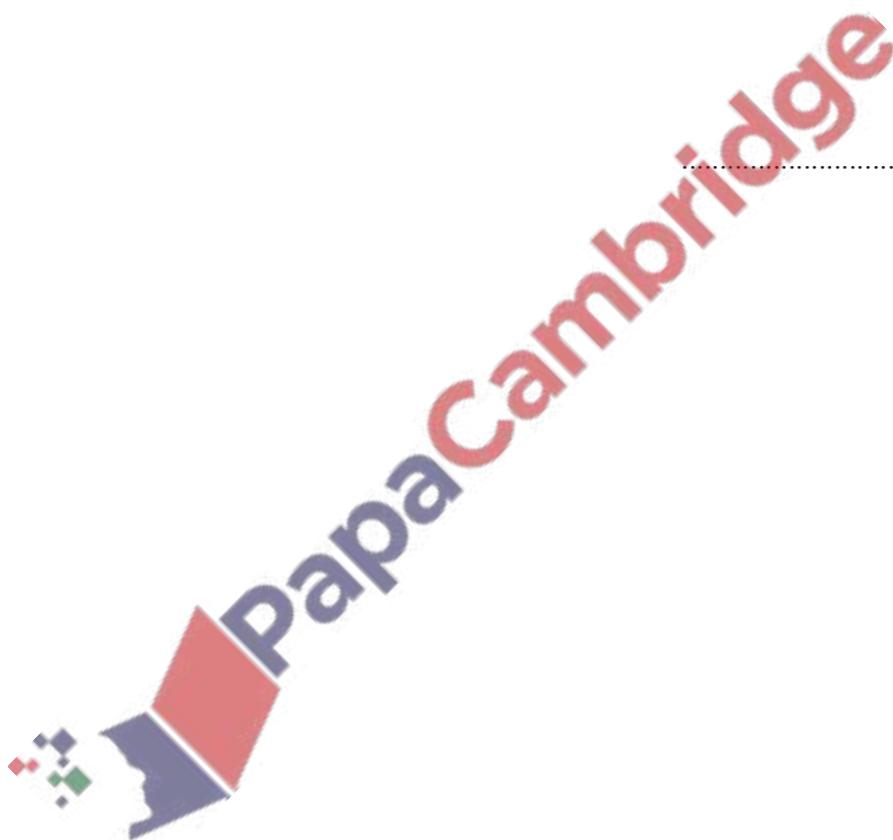


1. **Nov/2023/Paper_0444/23/No.12**

A solid cube of side 20 cm is made of pine.
The density of pine is 0.5 g/cm^3 .

Work out the mass of the cube.
Give your answer **in kilograms**.
[Density = mass \div volume]

..... kg [3]

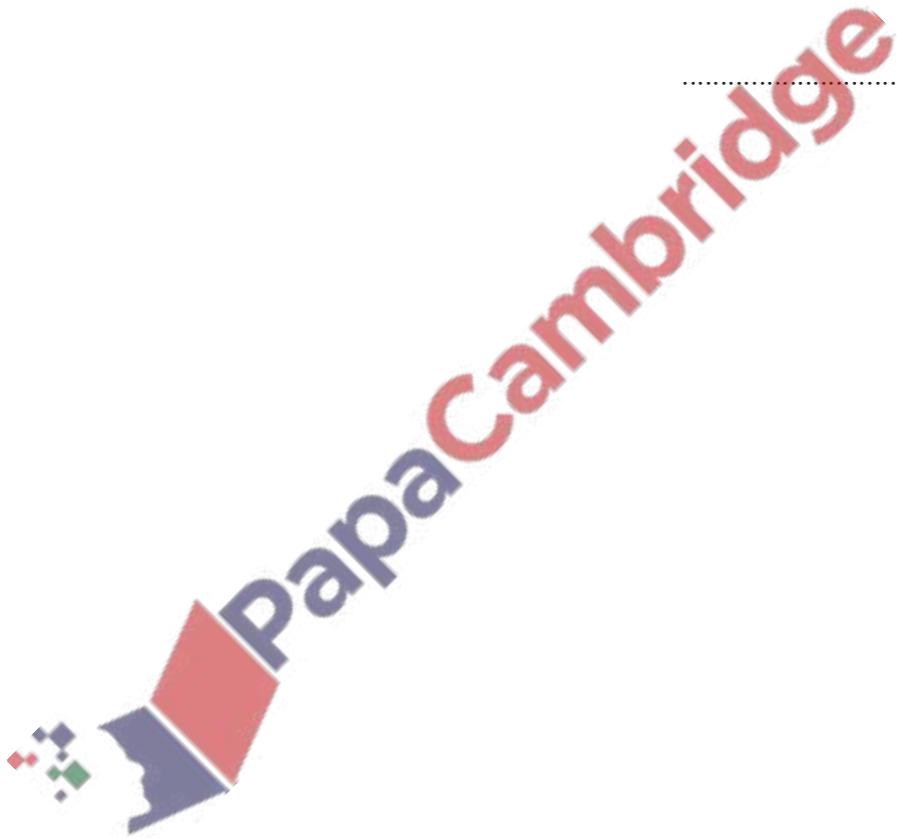


2. Nov/2023/Paper_0444/23/No.16

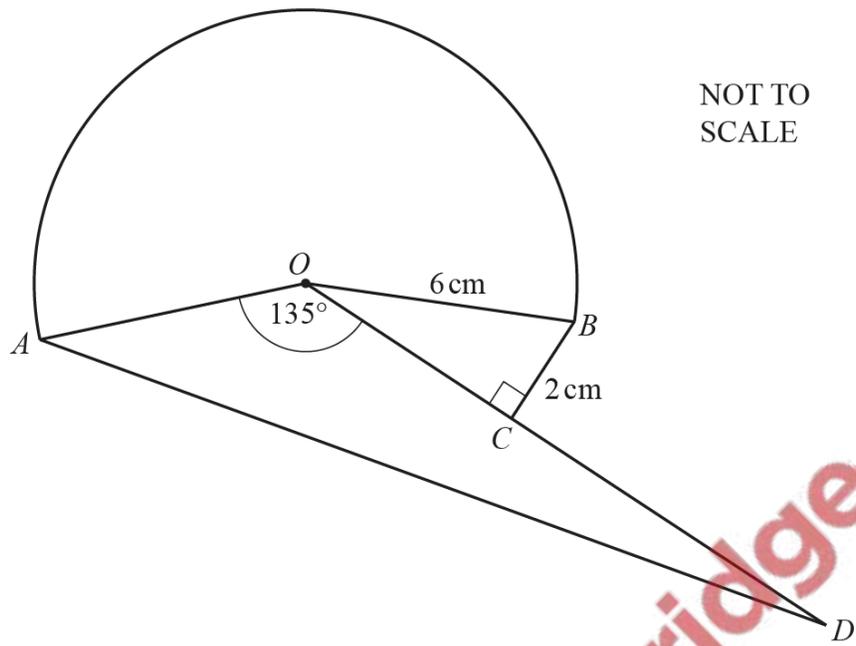
A cylinder with height 20 cm has a curved surface area of $120\pi \text{ cm}^2$.

Work out the volume of the cylinder.
Give your answer in terms of π .

..... cm^3 [4]



(a)

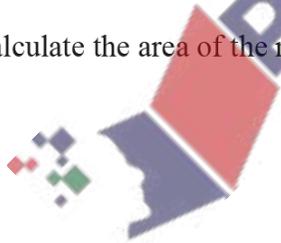


The diagram shows a shape made from a major sector AOB and triangles OBC and AOD .
 $OB = 6\text{ cm}$, $BC = 2\text{ cm}$, obtuse angle $AOC = 135^\circ$ and angle $BCO = 90^\circ$.

(i) Show that angle $BOC = 19.5^\circ$, correct to 1 decimal place.

[2]

(ii) Calculate the area of the major sector AOB .



..... cm^2 [3]

(iii) C is the midpoint of OD .

Calculate AD .

..... cm [5]

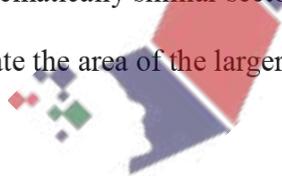
(iv) Calculate the total area of the shape.

..... cm^2 [4]

(b) A sector of a circle has radius 8 cm and area 160 cm^2 .
A mathematically similar sector has radius 20 cm.

Calculate the area of the larger sector.

..... cm^2 [3]



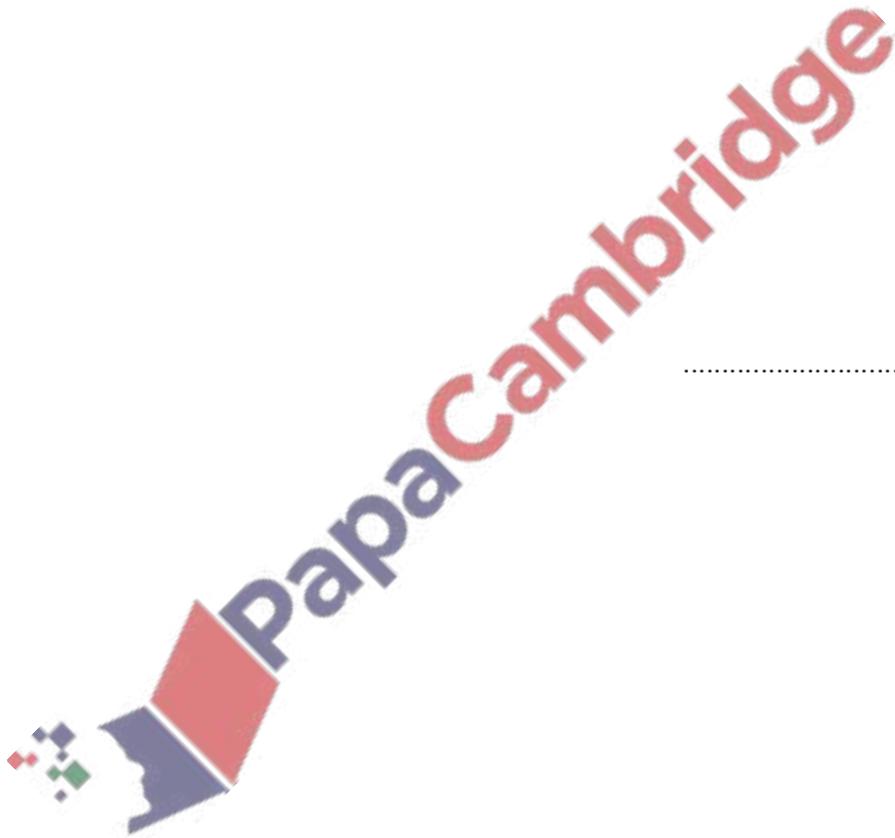
4. Nov/2023/Paper_0444/43/No.11

(a) Find the volume of a cone of radius 5 cm and height 11 cm.

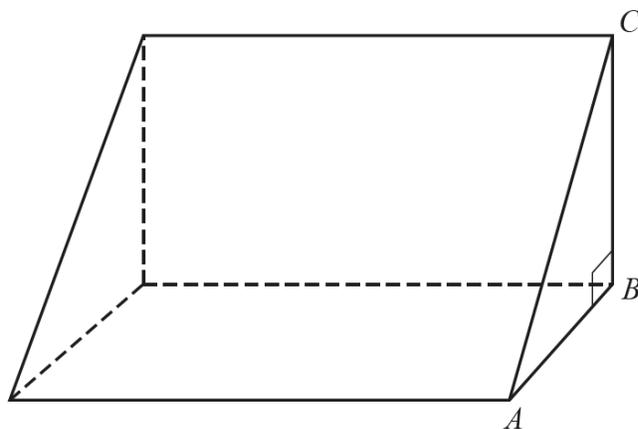
..... cm³ [2]

(b) Find the radius of a hemisphere of volume 136 cm³.

..... cm [3]



(c)



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The diagram shows a triangular prism.

$AB = 20$ millimeters, $BC = 14$ millimeters, and angle $ABC = 90^\circ$.

The volume of the prism is 5.6 cubic centimeters.

(i) Show that the length of the prism is 40 millimeters.

[3]

(ii) Calculate the total surface area of the prism.

