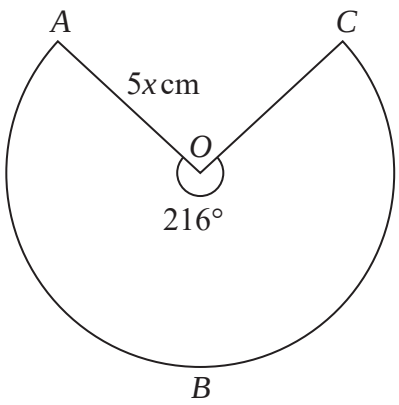
28



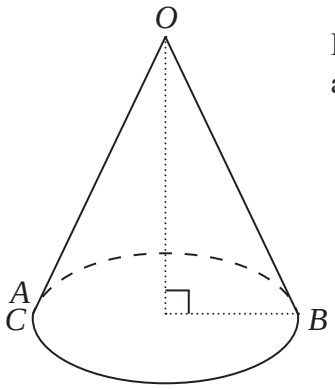


Diagram **NOT** accurately drawn

The diagram shows a piece of card in the shape of a sector, *OABC*, of a circle of radius $5x$ cm and centre *O*.
The diagram also shows a hollow, right circular cone.
The cone is formed from the card by joining *OA* and *OC* together.

The arc *ABC* of the sector subtends an angle of 216° at *O*.

(a) Find an expression, in terms of *x*, for

(i) the radius of the cone,

radius = ... cm

(2)

(ii) the height of the cone.

height = ... cm

(2)

Given that the volume of the cone is $\frac{375\pi}{2}$ cm^3

(b) find the value of x.

$x =$ .....

(3)

(Total for Question 28 is 7 marks)

TOTAL FOR PAPER IS 100 MARKS