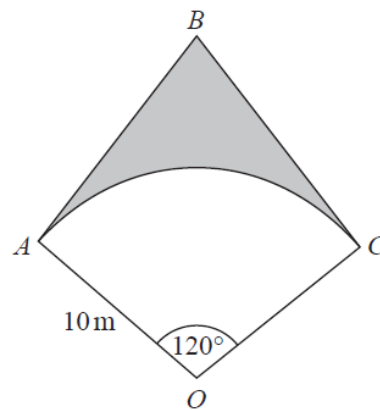


1



$OAC$  is a sector of a circle, centre  $O$ , radius  $10\text{ m}$ .

$BA$  is the tangent to the circle at point  $A$ .

$BC$  is the tangent to the circle at point  $C$ .

Angle  $AOC = 120^\circ$

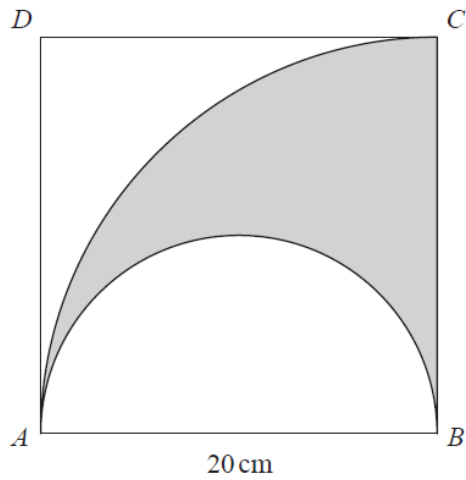
Calculate the area of the shaded region.

Give your answer correct to 3 significant figures.

..... $\text{m}^2$

(Total for Question is 5 marks)

- 2 The diagram shows a square  $ABCD$  with sides of length 20 cm. It also shows a semicircle and an arc of a circle.



$AB$  is the diameter of the semicircle.  
 $AC$  is an arc of a circle with centre  $B$ .

Show that  $\frac{\text{area of shaded region}}{\text{area of square}} = \frac{\pi}{8}$

(Total for Question is 4 marks)