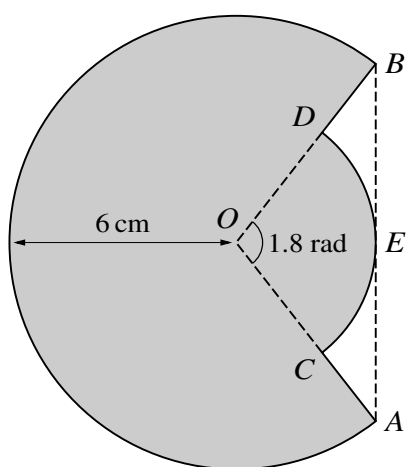


5



The diagram shows a major arc  $AB$  of a circle with centre  $O$  and radius 6 cm. Points  $C$  and  $D$  on  $OA$  and  $OB$  respectively are such that the line  $AB$  is a tangent at  $E$  to the arc  $CE$  of a smaller circle also with centre  $O$ . Angle  $COD = 1.8$  radians.

(i) Show that the radius of the arc  $CE$  is 3.73 cm, correct to 3 significant figures. [2]

(ii) Find the area of the shaded region. [4]