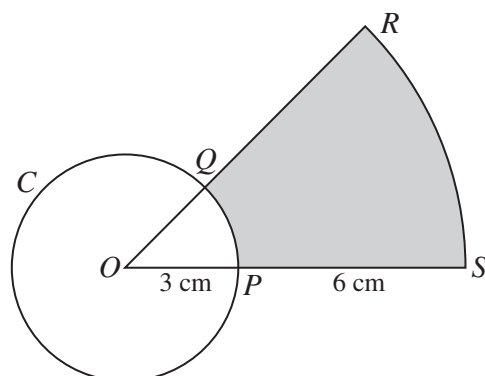


2



The diagram shows a circle C with centre O and radius 3 cm. The radii OP and OQ are extended to S and R respectively so that ORS is a sector of a circle with centre O . Given that $PS = 6$ cm and that the area of the shaded region is equal to the area of circle C ,

- (i) show that angle $POQ = \frac{1}{4}\pi$ radians, [3]
- (ii) find the perimeter of the shaded region. [2]