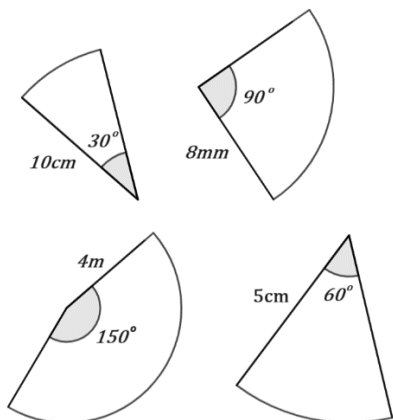
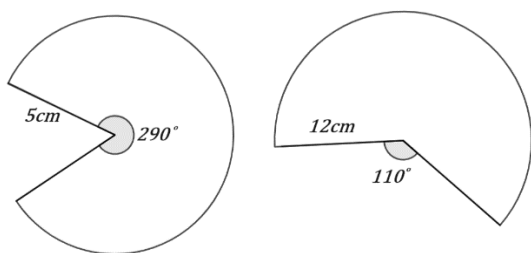


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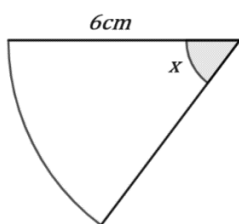
- (1) For each of the sectors below, find:
 (a) The area of the sector in terms of π .
 (b) The arc length in terms of π .
 (c) The total perimeter of the sector to 3SF.



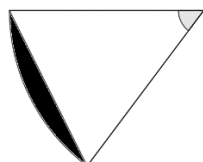
- (2) For each of the sectors below, find:
 (a) The area of the sector to 3SF.
 (b) The arc length in terms of π .
 (c) The perimeter in the form $a + b\pi$.



- (3) The sector shown below has angle x and radius $6cm$.

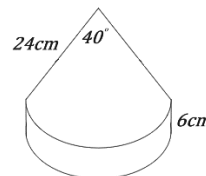


- (a) Given that the area of the sector is $6\pi cm^2$, find the value of x .
 (b) Hence, show that the perimeter of the sector is $18.3cm$ correct to 3SF.
 A black segment is now shaded on the sector.



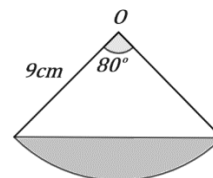
- (c) Show that the area of the black segment is $3.26cm^2$ correct to 3SF.

- (4) The diagram below shows a prism formed from a sector.



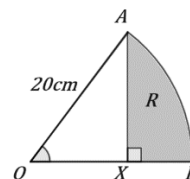
Find the volume of the prism in terms of π .

- (5) The diagram below shows a sector, centre O , with a shaded segment.



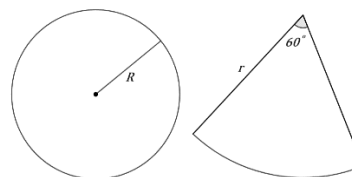
- (a) Find the area of the segment to 3SF.
 (b) Find the perimeter of the segment to 3SF

- (6) The diagram below shows the sector OAB with radius $20cm$. The point X is such that AX is perpendicular to OB .



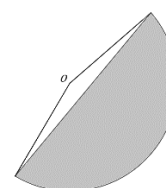
Given that $XB = 8cm$ find the shaded region R .

- (7) The diagram below shows a circle radius R and sector radius r and angle 60°



Given that the area of the circle is twice that of the sector, express R in terms of r .

- (8) The diagram shows a sector centre O with radius r and subtended angle 150° .



Without a calculator, show that the shaded segment has area $\frac{r^2}{12}(5\pi - 3)$