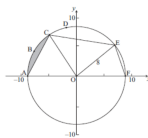


IB Geometry and Trigonometry Problem 009

The figure below shows a circle with centre O and radius 8 cm .

The figure is not to scale.



Points A, B, C, D, E, F are on the circle, and AF is a diameter. The length of arc ABC is 6 cm .

- Find the measure of angle $\angle AOC$.
- Hence, find the area of the shaded region.
- The area of sector $OCDE$ is 45 cm^2 . Find the measure of angle $\angle COE$.
- Find EF .