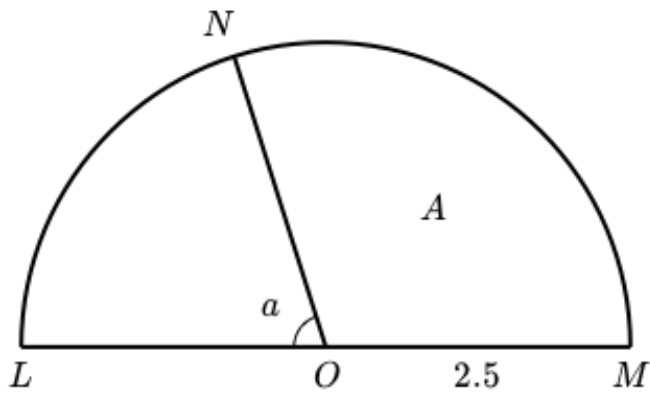


Circle Theorems



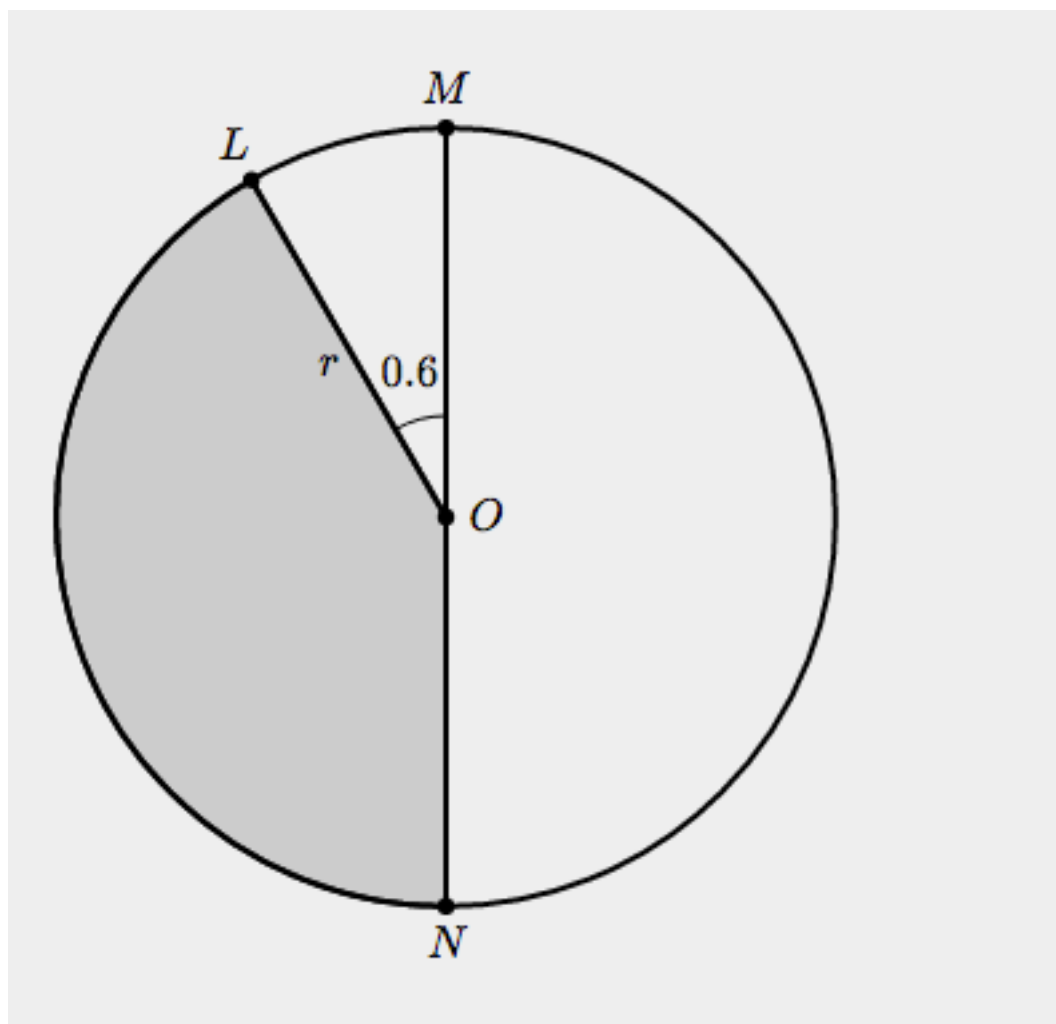
The semicircle shown above has center at point O . The sector of the circle formed by angle NOM has area $A = 6.25$. The radius of the semicircle is 2.5 . What is the radian measure of angle LON , shown by a in the figure?

(A) 2

(B) 2.5

(C) $\pi - 2$

(D) $\pi - 2.5$



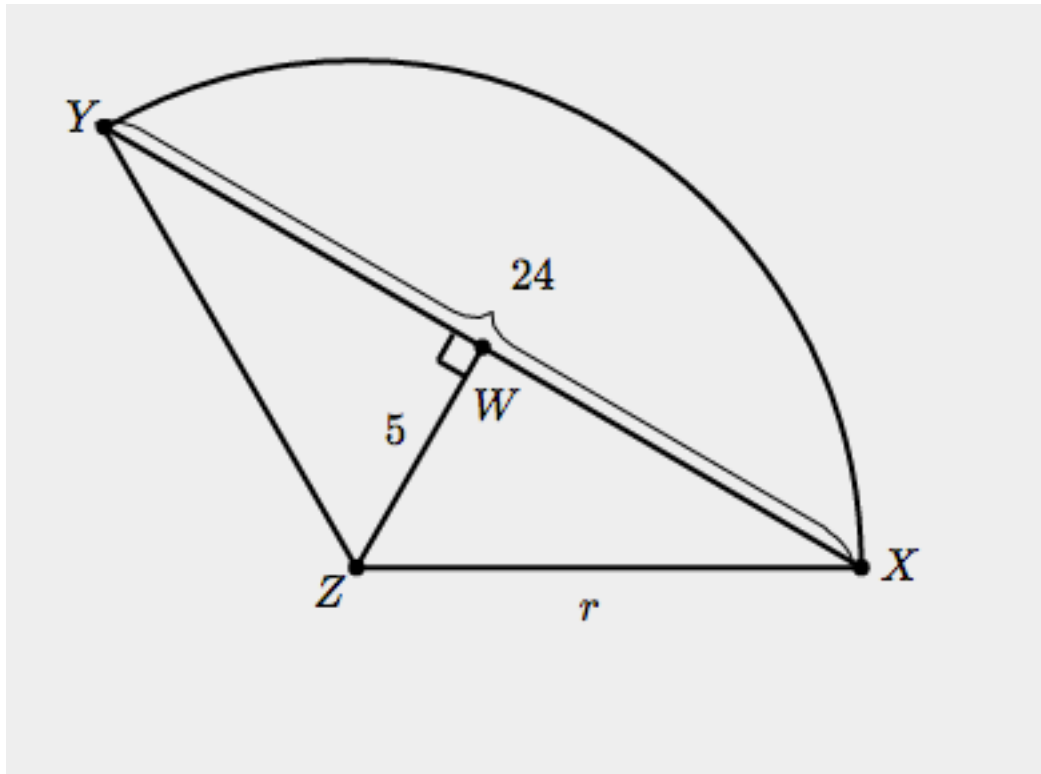
The circle shown at left has its center at point O . Line segment \overline{MN} is a diameter. The measure of acute angle LOM is 0.6 radians. The shaded sector of the circle formed by the obtuse angle LON has area 6 . What is the radius, r , of the circle?

(A) $\frac{3}{\pi - 0.6}$

(B) $\frac{12}{\pi - 0.6}$

(C) $\sqrt{\frac{3}{\pi - 0.6}}$

(D) $\sqrt{\frac{12}{\pi - 0.6}}$



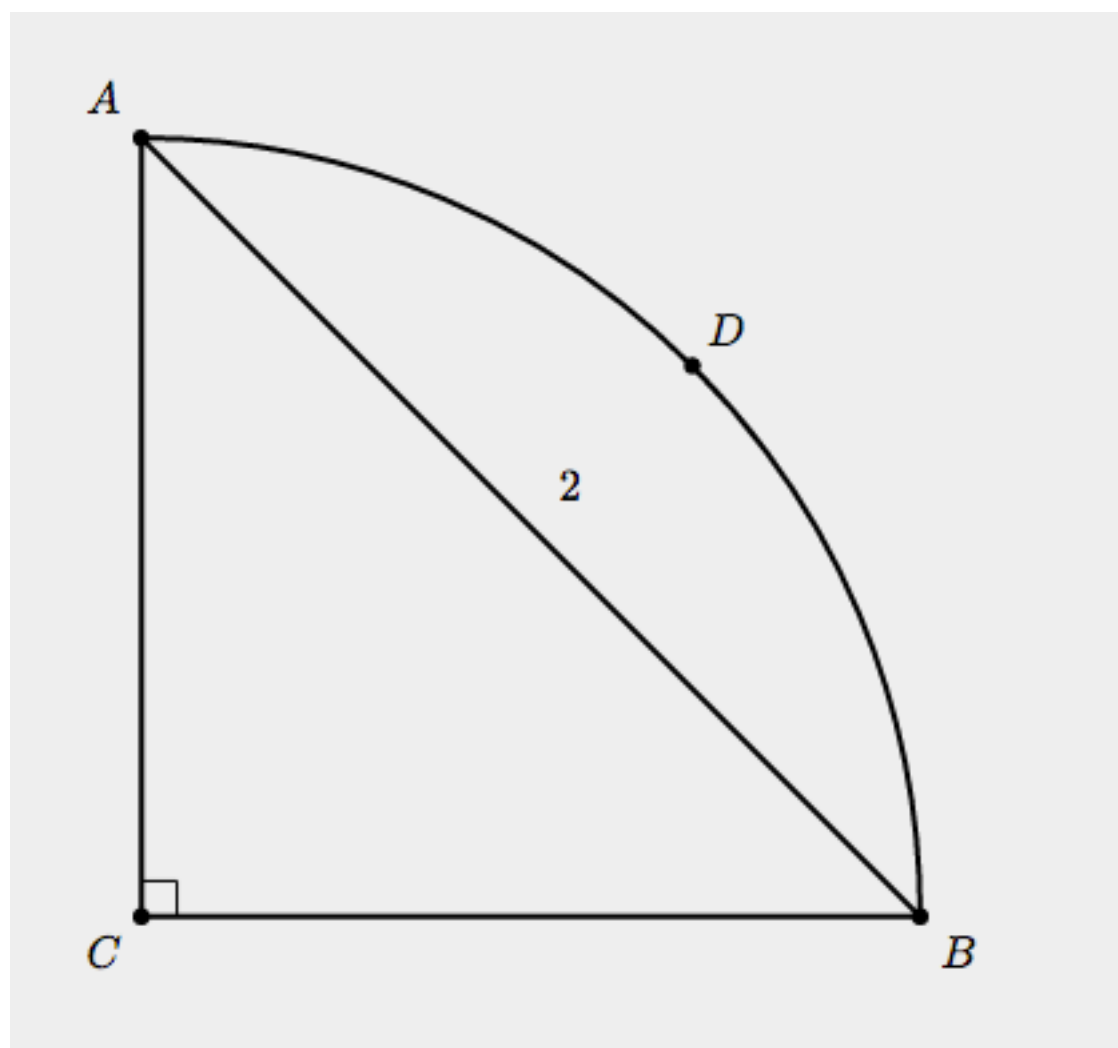
The sector of a circle shown at left has center Z . The length of the chord \overline{XY} is 24. The distance from Z to the chord \overline{XY} is 5, shown by \overline{WZ} . Finally, \overline{WZ} is perpendicular to \overline{XY} and bisects \overline{XY} at W . What is the radius, r , of the circle?

(A) $\sqrt{120}$

(B) 13

(C) 17

(D) $\sqrt{601}$



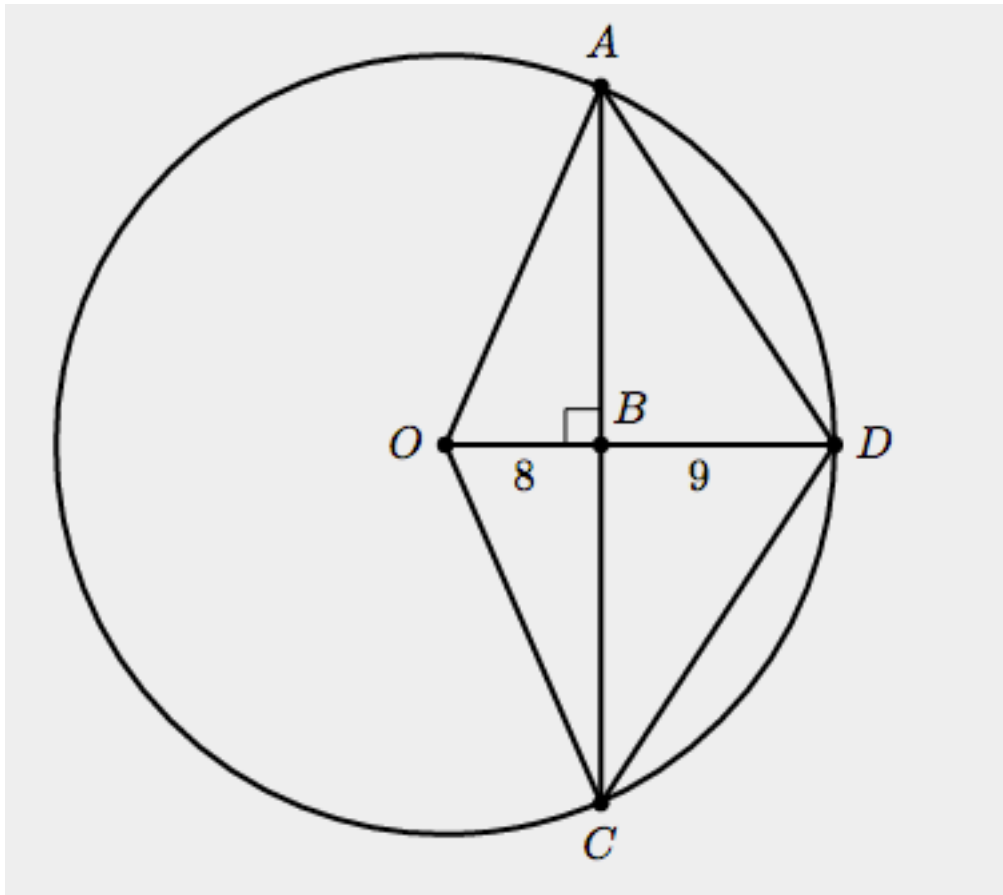
A metal wedge to be used as a corner brace has the shape of the quarter circle shown at left. Angle ACB is a right angle, and the length of the chord \overline{AB} is 2 centimeters (cm). What is the length of the arc ADB ?

(A) $\frac{\pi}{2}$ cm

(B) $\frac{\sqrt{2}\pi}{2}$ cm

(C) π cm

(D) $\sqrt{2}\pi$ cm



The circle shown at left has center at point O . Chord \overline{AC} is perpendicular to radius \overline{OD} and intersects \overline{OD} at point B . Line segment \overline{OB} has length 8 and line segment \overline{BD} has length 9. What is the length of chord \overline{AC} ?

(A) $2\sqrt{145}$

(B) 30

(C) $24\sqrt{2}$

(D) 34
