9.12 Dow Now Quiz: Sectors, secants, & chords calculations

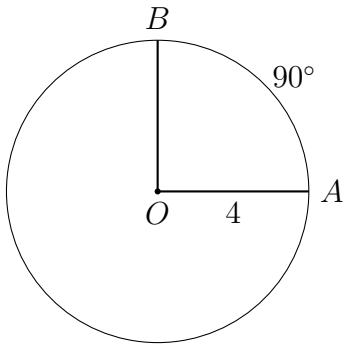
1. Find the area of a square that is 9 units on each side.

2. Find the circumference of a circle with radius 10.

3. Find the perimeter of a rectangle 6 inches long by 2 inches wide.

4. Find the area of a circle with radius 3.

5. Circle O has a radius $AO = 4$, as shown below, and arc measure $m\widehat{AB} = 90°$.



   (a) Find the $m\angle AOB$.

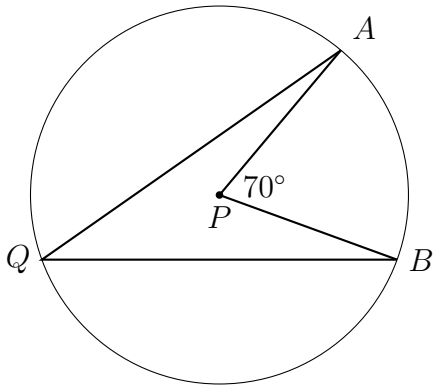
   (b) Find the length of the arc $\widehat{AB}$.

   (c) Find the area of the sector AOB.

6. Given circle P with $m\angle APB = 70°$.

   (a) Write down the $m\widehat{AB}$.

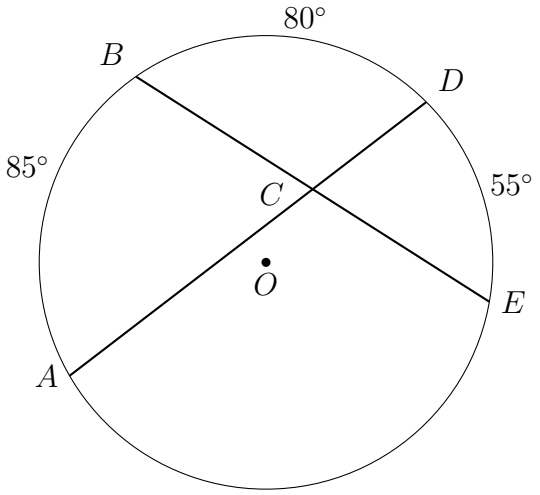
   (b) Find the $m\angle AQB$.



7. Given circle O with chords $\overline{AD}$ and $\overline{BE}$ intersecting at C, as shown in the diagram. Given $m\widehat{AB} = 85°$, $m\widehat{BD} = 80°$, and $m\widehat{DE} = 55°$.

   (a) Find the $m\angle ACB$.

   (b) Find the measure of the minor arc, $m\widehat{AE}$.

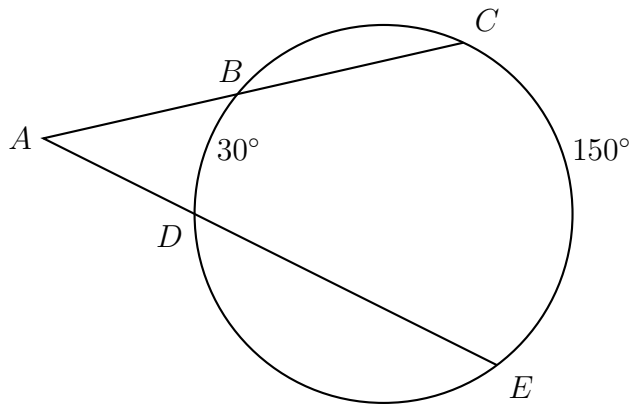


8. Write down the center and radius of each circle. Leave radii as simplified radicals if necessary (not decimals).

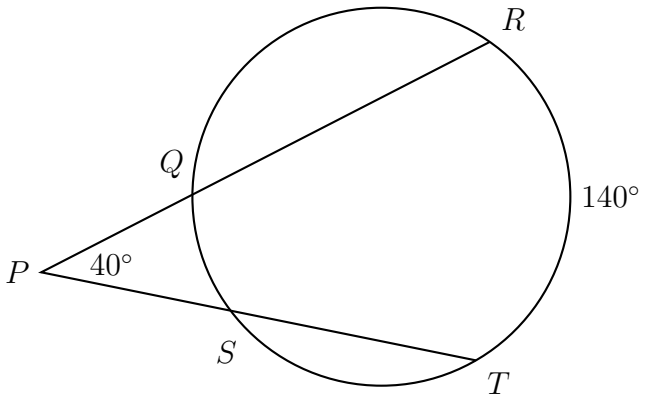
   (a) $(x-4)^2 + (y+7)^2 = 81$

   (b) $(x-1)^2 + y^2 = 50$

9. The secants $\overline{ABC}$ and $\overline{ADE}$ intersect the circle O, as shown in the diagram. Given $m\widehat{BD} = 30°$ and $m\widehat{CE} = 150°$. Find the $m\angle A$.

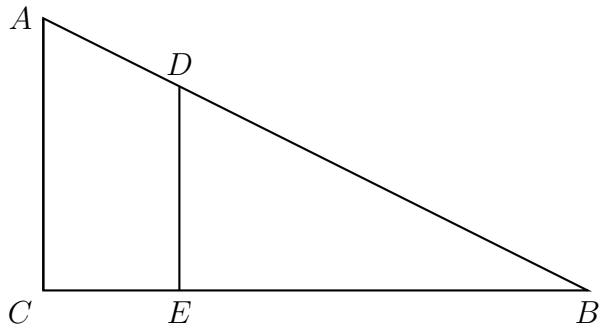


10. The secants $\overline{PQR}$ and $\overline{PST}$ intersect the circle O, as shown in the diagram. Given $m\angle P = 40°$ and $m\widehat{RT} = 140°$. Find the $m\widehat{QS}$.



11. Given $P(7, -4)$ and $Q(5, 2)$, find the length of $\overline{PQ}$. Simplify the radical.

12. In right triangle ABC shown below, point D is on $\overline{AB}$ and point E is on $\overline{BC}$ such that $\overline{AC} \parallel \overline{DE}$. Given $AB = 10$, $BD = 7.5$, and $BE = 6$.

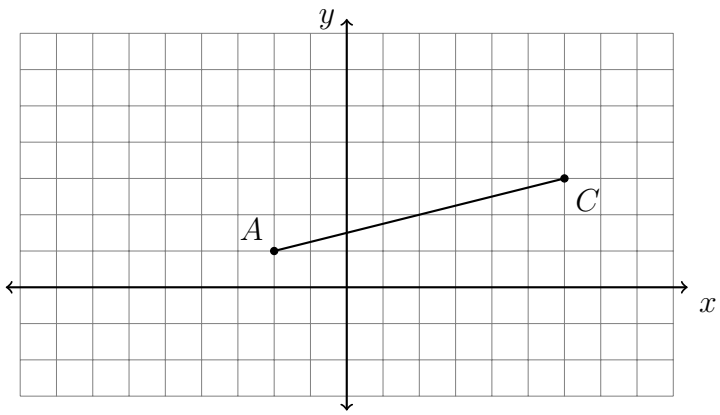


(a) Find the length of $\overline{AD}$.

(b) Find the scale factor, k, dilating $\triangle DBE \to \triangle ABC$, centered at B.

(c) Find BC.

13. In the diagram below, $\overline{AC}$ has endpoints with coordinates $A(-2, 1)$ and $C(6, 3)$.



Find the coordinates of the midpoint M of $\overline{AC}$, and mark and label it on the graph.