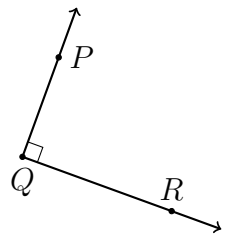
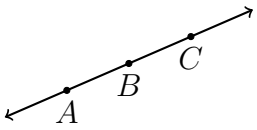
7.9 Angle review

1. The size of an angle is its "measure," which can be from $0°$ to $360°$

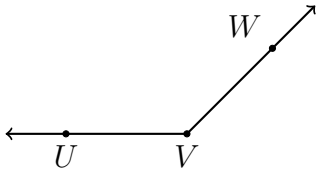
   (a) What is the degree measure of the angle, $m\angle PQR$?



   (b) What is the degree measure made by these two opposite rays, $\overrightarrow{BA}$ and $\overrightarrow{BC}$?



   (c) The given angle $\angle UVW$ is which of the following: acute, obtuse, or right?

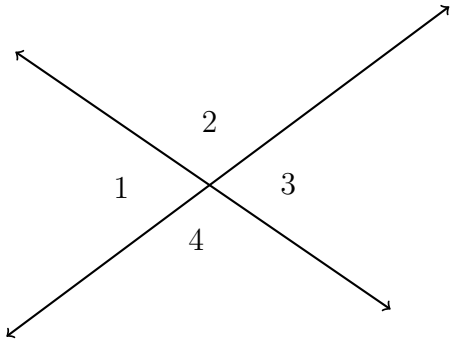


2. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.

   Given $m\angle 2 = 110°$.

   (a) Find $m\angle 3$

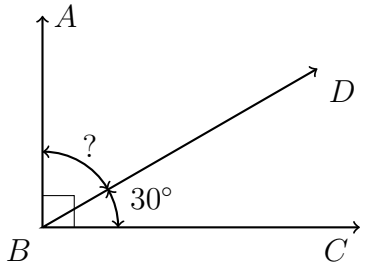
   (b) Find $m\angle 4$



3. Apply the Angle Addition postulate. Write and equation to support your work.

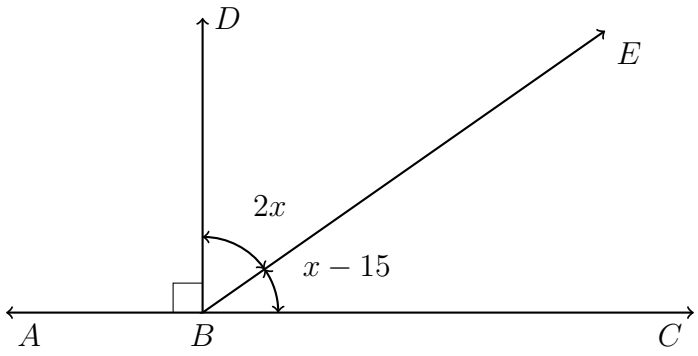
Given $m\angle CBD = 30°$, $m\angle ABC = 90°$.

Find $m\angle ABD$.



4. Given $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$, $m\angle DBE = 2x$, and $m\angle EBC = x - 15°$, as shown below.

   Write an equation and solve for x.



5. An equilateral triangle is inscribed in a circle with a radius $r = 9$. Find each:

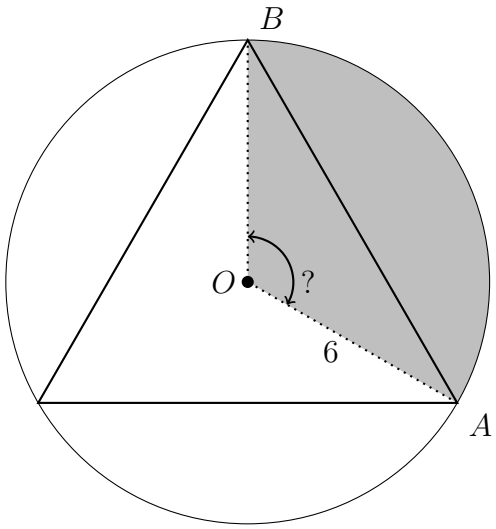
(a) $m\angle AOB$

(b) The circle circumference. ($C = 2\pi r$)

(c) The length of the arc $\overset{\frown}{AB}$

(d) The circle's area. ($A = \pi r^2$)

(e) The sector area (in gray)

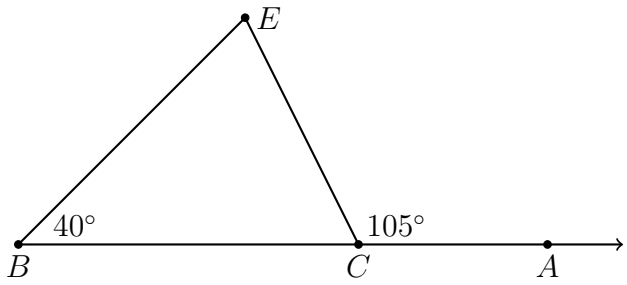


6. Given $m\angle B = 40°$ and $m\angle ECA = 105°$.

   (a) What is the sum of the measures of a triangle's angles? (for example, $\angle BCE$, $\angle B$, and $\angle E$)

   (b) Find $m\angle BCE$.

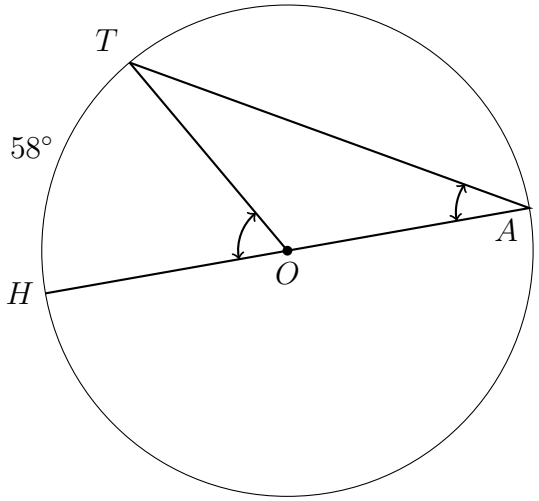
   (c) Find $m\angle E$.



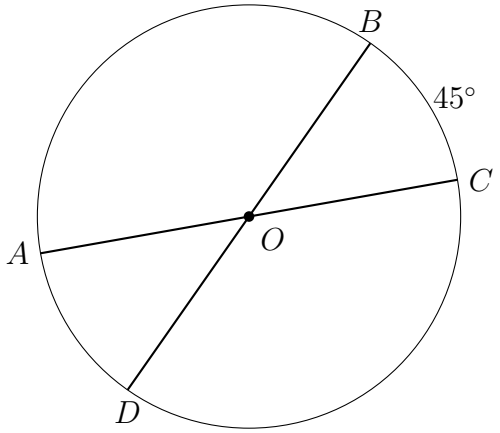
7. Given circle O with $m\widehat{HT} = 58°$.

   (a) Write down the $m\angle HOT$.

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



8. Given circle O, diameters $\overline{AC}$ and $\overline{BD}$, and arc measure $m\widehat{BC} = 45°$.



(a) How are $\angle AOD$ and $\angle BOC$ related?

- Vertical angles
- Opposite angles
- Complementary angles
- Supplementary angles
- Linear pair

(b) Write down $m\angle AOD$

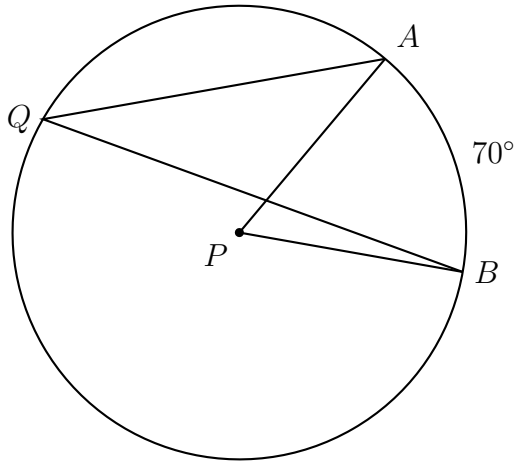
(c) Write down $m\widehat{AD}$.

(d) Find $m\widehat{AB}$

9. Given circle P with $m\widehat{AB} = 70°$.

   (a) Write down the $m\angle APB$.

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



10. Ray $\overrightarrow{BF}$ is the angle bisector of $\angle ABC$. Given that the angle measures are $m\angle ABF = 7x - 14$ and $m\angle CBF = 5x + 10$.

    Find x and hence, $m\angle ABC$.