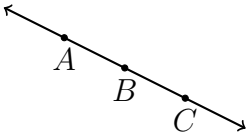
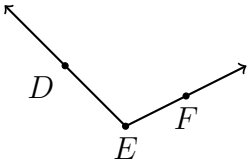
2.6 Classwork Angle terminology

1. Definition: *Opposite rays* are collinear rays with a common end point.

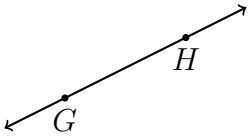
   (a) $\overrightarrow{BA}$ and $\overrightarrow{BC}$ are opposite rays



   (b) These rays do not make a straight line.



   (c) The rays $\overrightarrow{GH}$ and $\overrightarrow{HG}$ do not share a common end point.



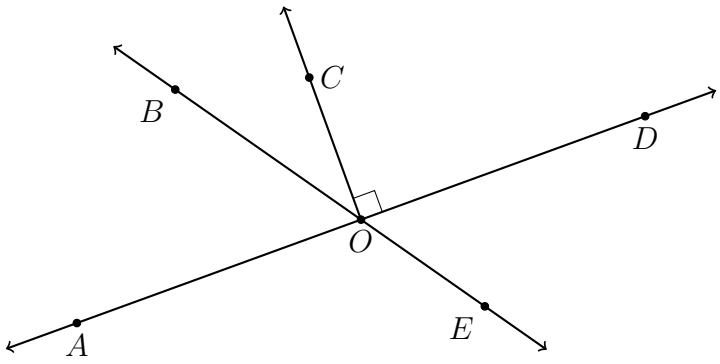
2. Type your answers. Use the less than key ("<") to represent an angle, followed by three letters.

   (a) Name a right angle: _____

   (b) Name the ray opposite to $\overrightarrow{OE}$: _____

   (c) What is the measure of $\angle AOC$? _____

   (d) Name the angle vertical to $\angle AOB$: _____

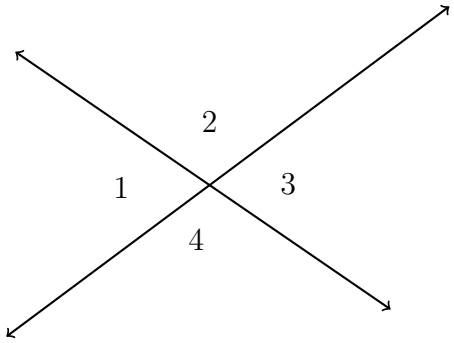


3. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.

   Given $m\angle 1 = 75°$.

   (a) Find $m\angle 3$

   (b) Find $m\angle 2$

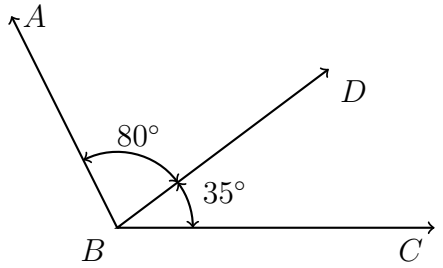


Angle addition situations

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

   Given $m\angle ABD = 80°$ and $m\angle DBC = 35°$.

   Find $m\angle ABC$.

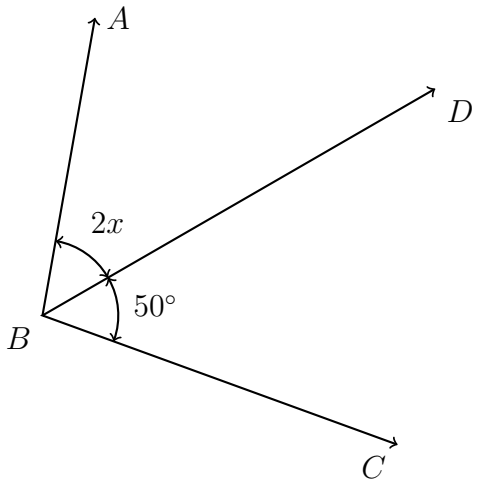


5. Given the angle measures and situation shown, write an equation and solve for x.

$m\angle ABD = 2x$

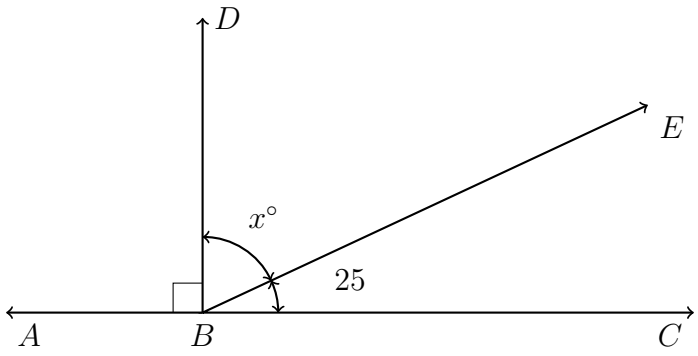
$m\angle DBC = 50°$

$m\angle ABC = 110°$



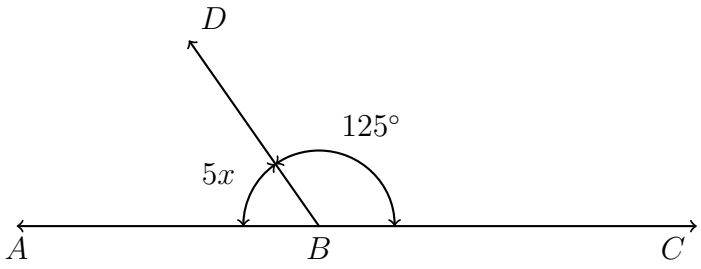
6. The ray $\overrightarrow{BD}$ makes a $90°$ angle with the line $\overleftrightarrow{ABC}$, and $m\angle DBE = x°$, $m\angle EBC = 25°$.

   Find x, writing and equation to support your work.



7. Two supplementary angles have measures $m\angle ABD = 5x$ and $m\angle DBC = 125°$.

   Write an equation, then find x.

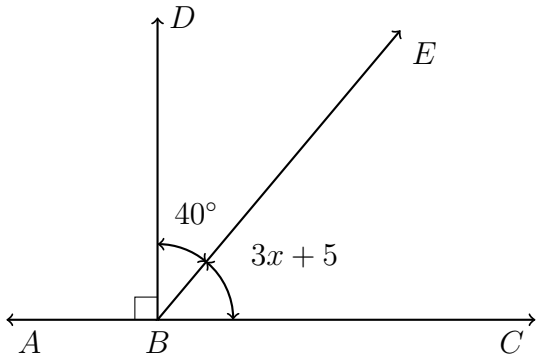


8. Given the perpendicular situation shown, $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$ and angle measures given.

   Find x.

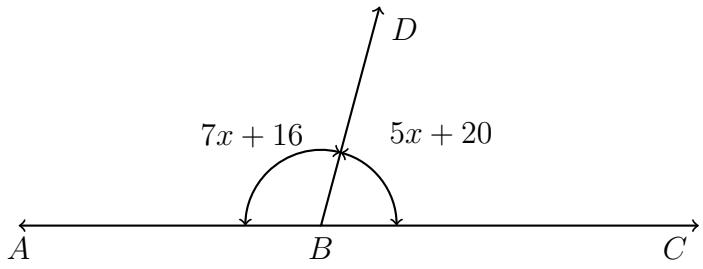
   $m\angle DBE = 40°$

   $m\angle EBC = 3x + 5°$



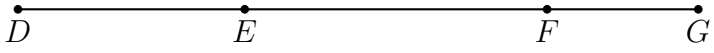
9. A linear pair have measures $m\angle ABD = 7x + 16°$ and $m\angle DBC = 5x + 20°$.

   Find $m\angle ABD$.



10. Given $\overline{DEFG}$, $DE = 3\frac{1}{4}$, $EF = 6\frac{1}{4}$, and $FG = 1\frac{3}{4}$. (diagram not to scale)

    Find DG, expressed as a fraction, not a decimal.



11. Given $P(-2.4)$ and $Q(1.8)$, as shown on the number line.

    Find the length of the line segment $\overline{PQ}$. State an equation for full credit.