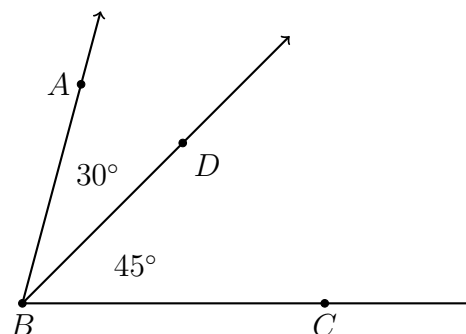


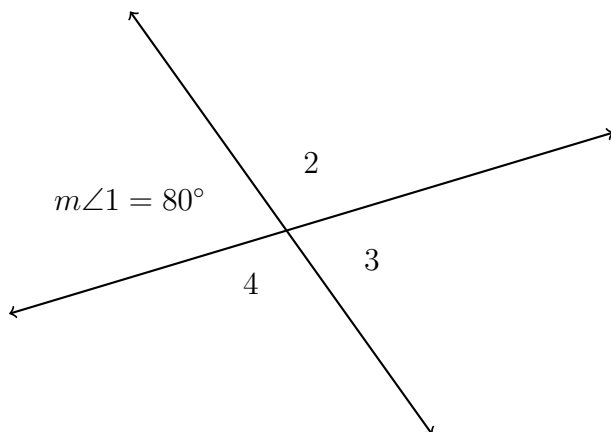
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2.2 Classwork: Angle addition

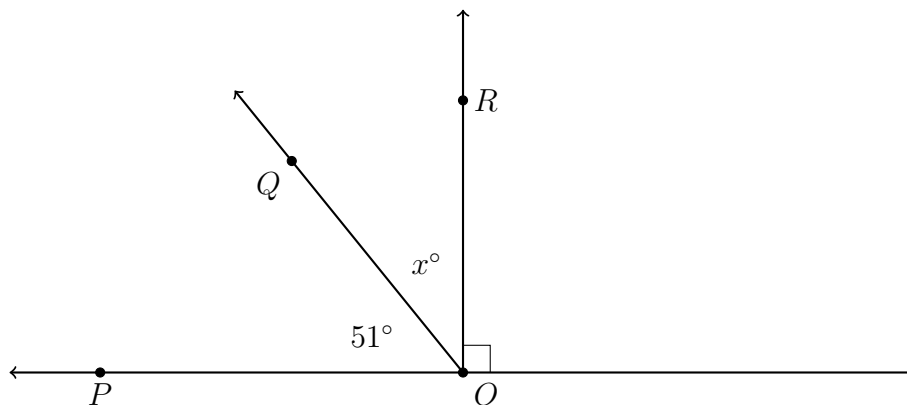
1. Do Now: $m\angle ABD = 30^\circ$, $m\angle DBC = 45^\circ$. Find $m\angle ABC$.



2. Two lines intersect with $m\angle 1 = 80^\circ$. Find the measures of $\angle 2$, $\angle 3$, and $\angle 4$.

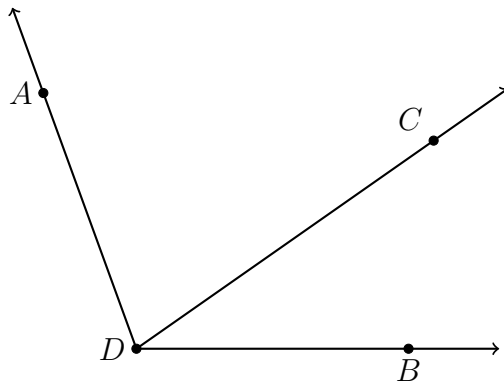


3. $\angle POQ$ and $\angle QOR$ are complementary angles. Given $m\angle POQ = 51^\circ$, find $m\angle QOR$.



4. Given $m\angle ADB = 110^\circ$, $m\angle ADC = 75^\circ$, and $m\angle BDC = 3x + 5$. Find x .

- (a) Label the diagram.
 (b) Write an equation.
 (c) Solve for x .



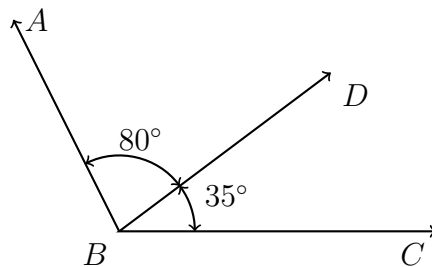
- (d) Check your answer

5. Apply the Angle Addition postulate. Write an equation to support your work.

Given $m\angle ABD = 80^\circ$ and

$m\angle DBC = 35^\circ$.

Find $m\angle ABC$.

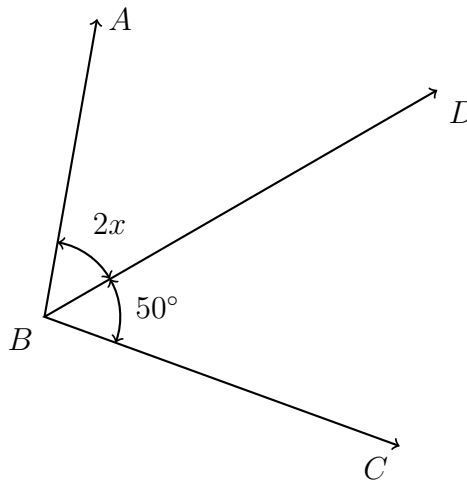


6. Given the angle measures and situation shown, write an equation and solve for x .

$m\angle ABD = 2x$

$m\angle DBC = 50^\circ$

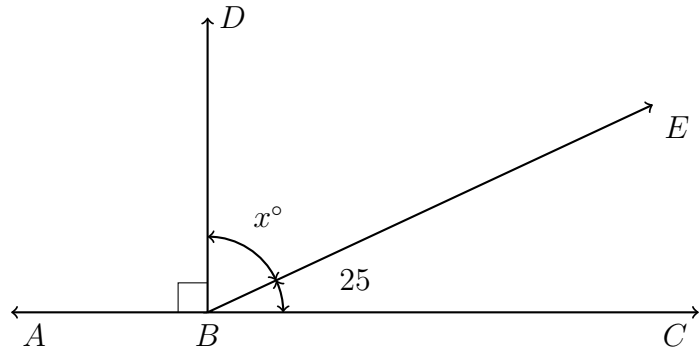
$m\angle ABC = 110^\circ$



Name:

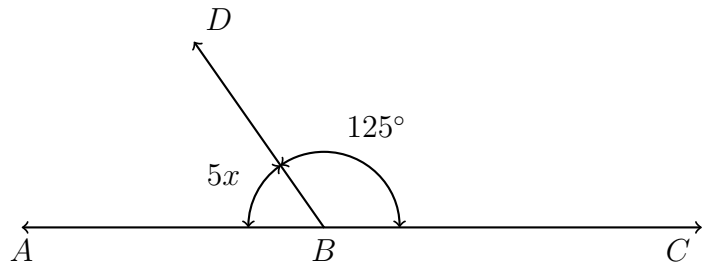
7. The ray \overrightarrow{BD} makes a 90° angle with the line \overleftrightarrow{AC} , and $m\angle DBE = x^\circ$, $m\angle EBC = 25^\circ$.

Find x , writing an equation to support your work.



8. Two supplementary angles have measures $m\angle ABD = 5x$ and $m\angle DBC = 125^\circ$.

Write an equation, then find x .

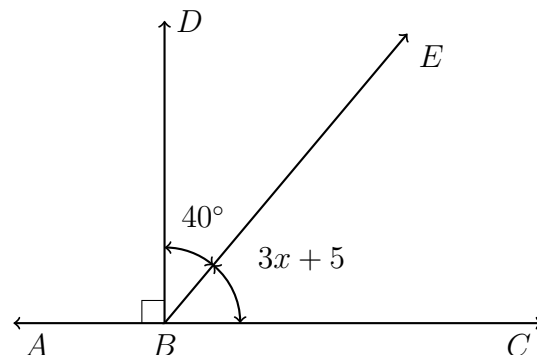


9. Given the perpendicular situation shown, $\overrightarrow{BD} \perp \overleftrightarrow{AC}$ and angle measures given.

Find x .

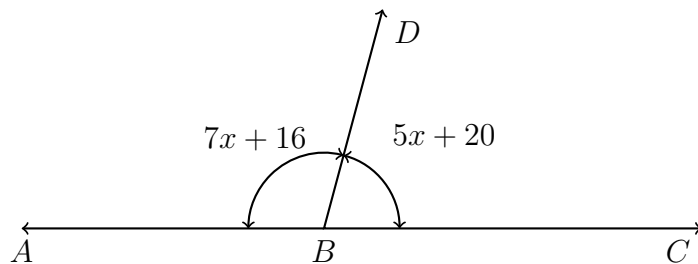
$$m\angle DBE = 40^\circ$$

$$m\angle EBC = 3x + 5^\circ$$



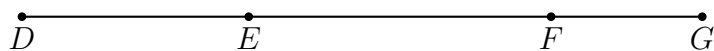
10. A linear pair have measures $m\angle ABD = 7x + 16^\circ$ and $m\angle DBC = 5x + 20^\circ$.

Find $m\angle ABD$.



11. 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.



12. 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.

