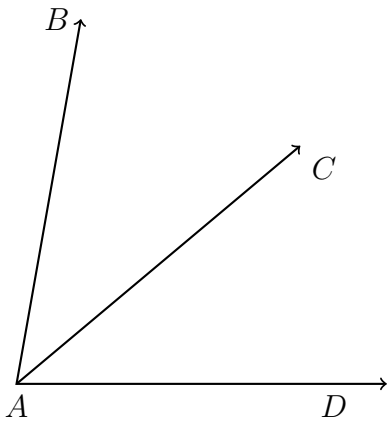
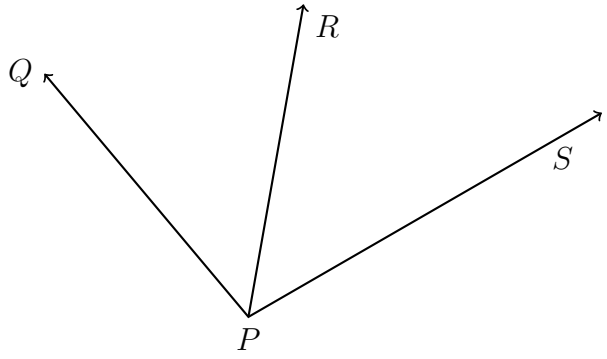
3-3CW-Modeling-segments

1. An angle bisector is shown below, with $\overrightarrow{AC}$ bisecting $\angle BAD$. Given $m\angle BAC = 7x+5$ and $m\angle DAC = 9x-5$, find $m\angle BAD$. (Show check)



2. An angle bisector is shown below, with $\overrightarrow{PR}$ bisecting $\angle QPS$. Given $m\angle QPR = 4x+2$ and $m\angle QPS = 10x-20$, find $m\angle QPS$.



Do Not Solve! Make a drawing on the right, an equation to the left, and circle where it states what to find.

3. The point Q is the midpoint of $\overline{PR}$, $PQ = 11$, and $QR = 2x + 1$. Find x.

4. Given $\overline{PQR}$, with $PQ = 3x - 7$, $QR = x + 3$, and $PR = 12$. Find x.

5. Given that Q bisects $\overline{PR}$. $PQ = 2x - 5$, $PR = 42$. Find x.

6. The points P, Q, and R are collinear, with $PQ = x + 4$ and $PR = 27$. $\overline{QR}$ is twice the length of $\overline{PQ}$. Find x.