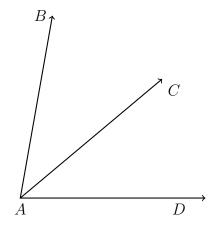
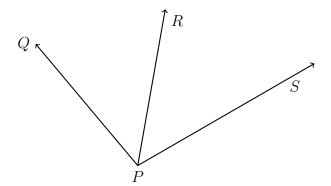
3.3 Classwork: Angle bisectors, modeling segments

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



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.