3.2 Homework: Mixed review

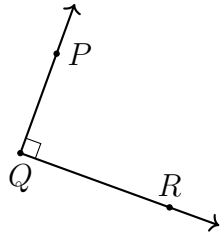
1. Demonstrate your ability to classify angles and use standard terminology.

   (a) Which of the following are true with respect to the angle, m$\angle PQR$?

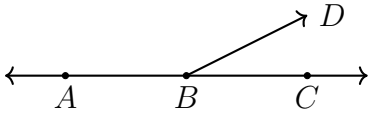
   True False It is a right angle

   True False It's measure is 180°

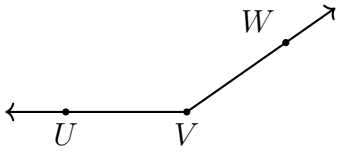
   True False $\overrightarrow{QP}$ is perpendicular to $\overrightarrow{QR}$



   (b) What is the sum of the degree measures of this linear pair, $\angle ABD$ and $\angle CBD$?

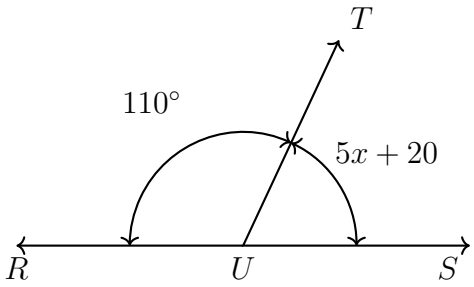


   (c) The given angle $\angle UVW$ is which of the following: acute, obtuse, or right?



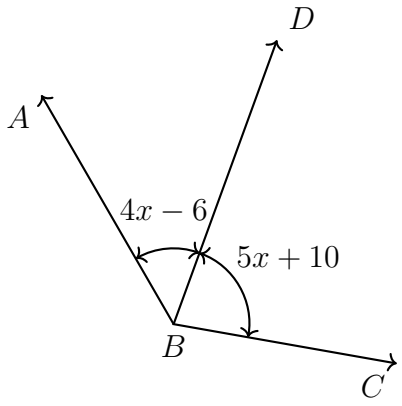
2. A linear pair is formed by two angles, m$\angle RUT = 110°$ and m$\angle SUT = 5x + 20$.

   Write an equation, then solve for x.



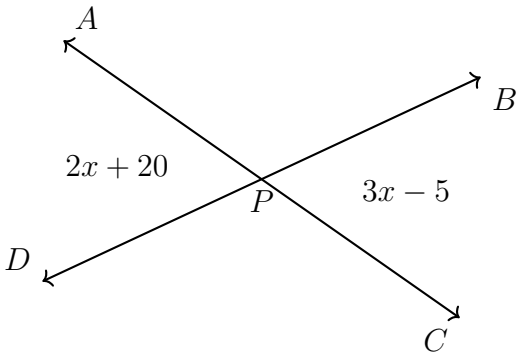
3. Given $\text{m}\angle ABD = 4x - 6$, $\text{m}\angle DBC = 5x + 10$, and $m\angle ABC = 130°$, as shown.

   Model the situation with an equation, then solve for x. Check your solution for full credit.

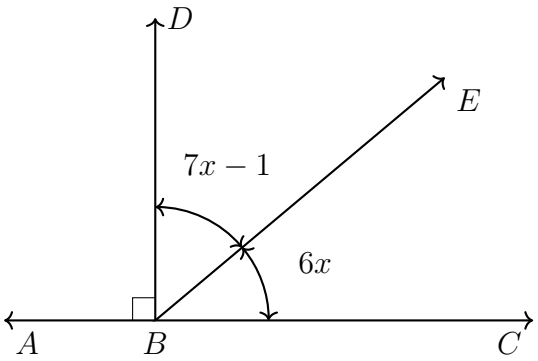


4. Given vertical angles, $\text{m}\angle APD = 3x - 5$, $\text{m}\angle BPC = 2x + 20$, as shown.

   Find x. Check your solution for full credit.

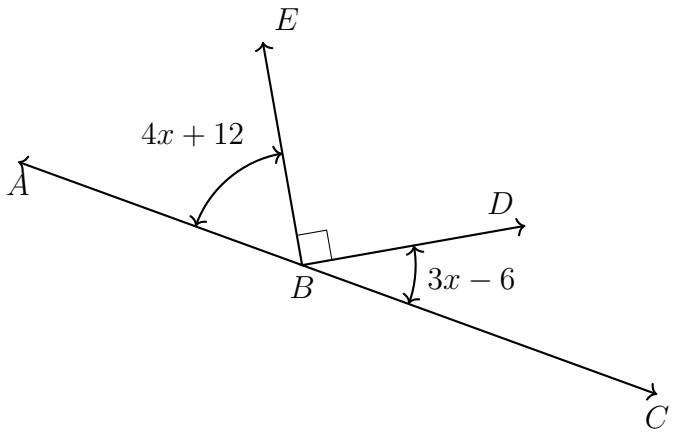


5. In the diagram shown, $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$ with $\text{m}\angle DBE = 7x - 1°$ and $\text{m}\angle EBC = 6x°$. Find x. Show the check for full credit.



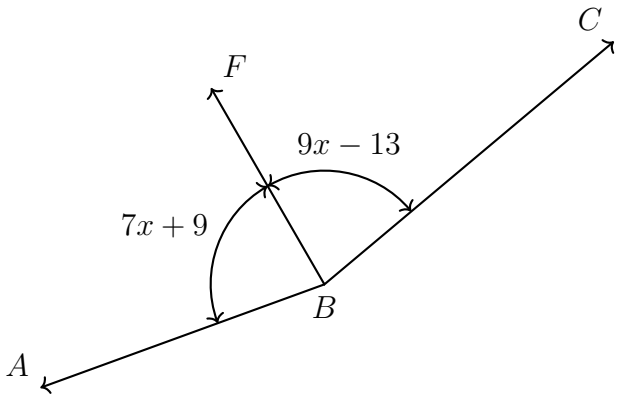
6. Given $\overleftrightarrow{ABC}$, right angle $\angle DBE$, $\text{m}\angle ABE = 4x + 12$, and $\text{m}\angle CBD = 3x - 6$.

   Find $\text{m}\angle CBD$.



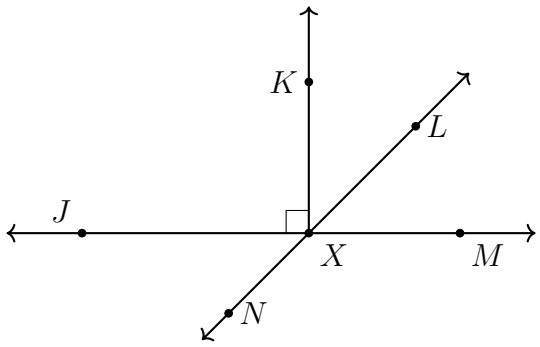
7. Ray $\overrightarrow{BF}$ is the angle bisector of $\angle ABC$. Given that the angle measures are $\text{m}\angle ABF = 7x + 9$ and $\text{m}\angle CBF = 9x - 13$.

   Find $\text{m}\angle ABC$.



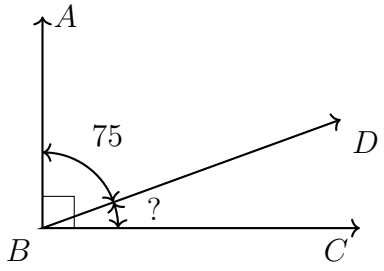
8. Ray $\overrightarrow{XL}$ is the angle bisector of $\angle KXM$. Given $\text{m}\angle JXN = 2x + 3$.

   Find x.



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

   Given m$\angle ABD = 75°$, m$\angle ABC = 90°$.



   Find $m\angle CBD$.