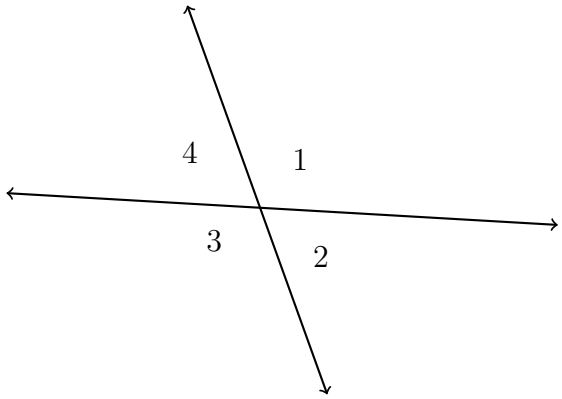
3.6 ReQuiz: Angle addition

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

   (a) Name a pair of vertical angles.

   (b) Given $m\angle 4 = 70°$, write down $m\angle 2$.

   (c) Find $m\angle 1$.



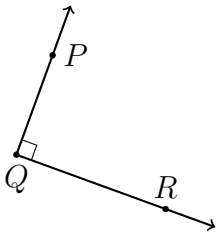
2. Demonstrate your ability to classify angles and use standard terminology.

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

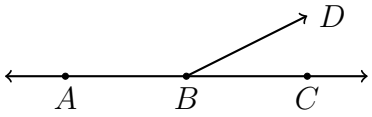
True False It is a right angle

True False It's measure is 180°

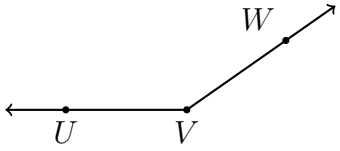
True False $\overrightarrow{QP}$ is perpendicular to $\overrightarrow{QR}$



(b) What is 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?

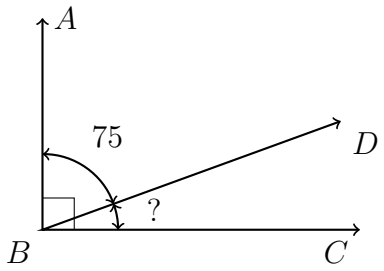


Angle addition situations

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

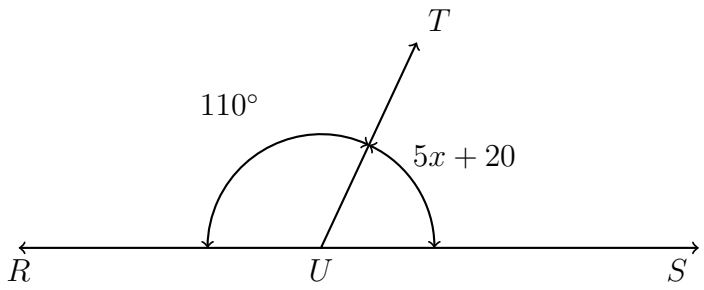
   Given $m\angle ABD = 75°$, $m\angle ABC = 90°$.

   Find $m\angle CBD$.



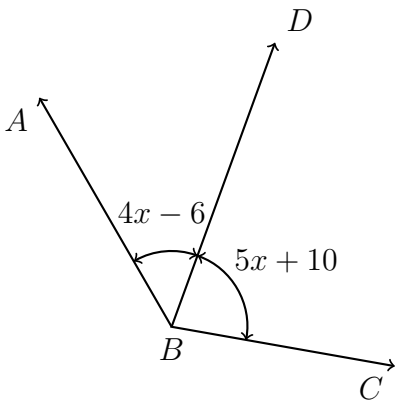
4. A linear pair is formed by two angles, $m\angle RUT = 110°$ and $m\angle SUT = 5x + 20$.

   Write an equation, then solve for x.



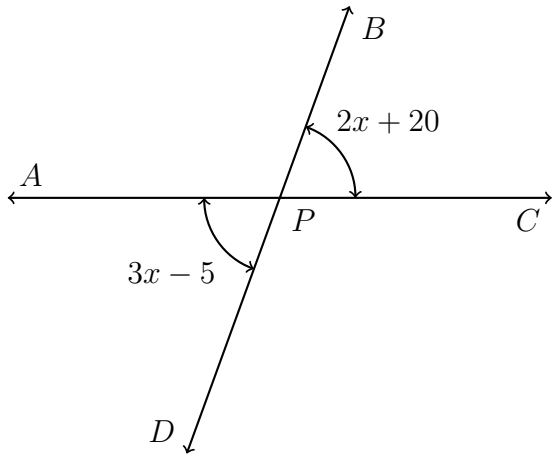
5. Given $m\angle ABD = 4x - 6$, $m\angle DBC = 5x + 10$, and $m\angle ABC = 130°$, as shown.

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



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

   Find x. Check your solution for full credit.

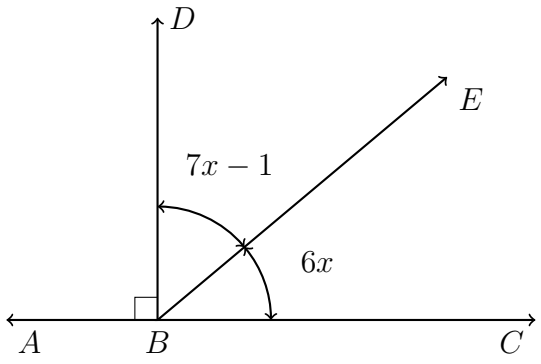


7. In the diagram shown, $\overrightarrow{BD} \perp \overleftrightarrow{ABC}$ with angle measures marked. Find x.

   Show the check for full credit.

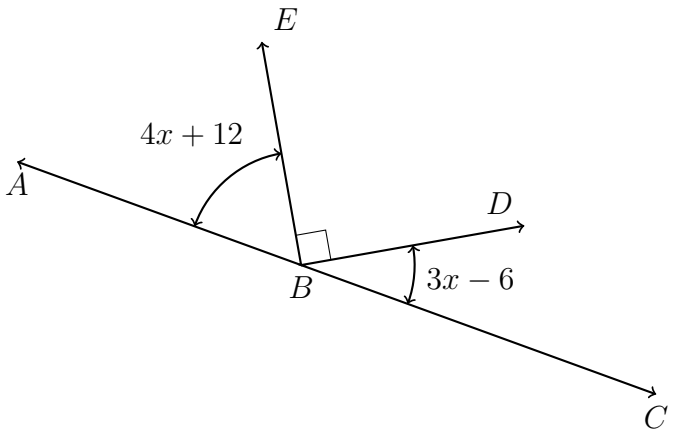
   $m\angle DBE = 7x - 1°$

   $m\angle EBC = 6x°$



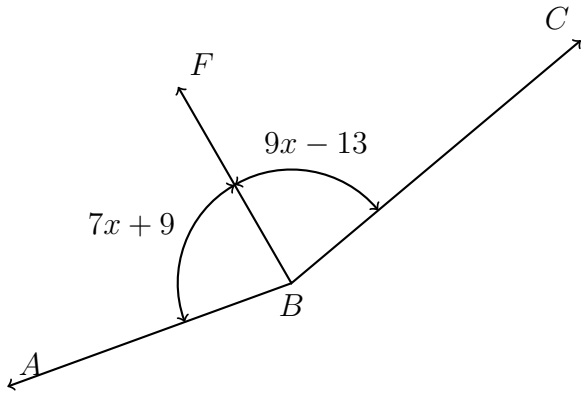
8. Spicy: Given $\overleftrightarrow{ABC}$, right angle $\angle DBE$, $m\angle ABE = 4x + 12$, and $m\angle CBD = 3x - 6$.

   Find $m\angle CBD$.



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

   Find $m\angle ABC$.



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

Find x.