

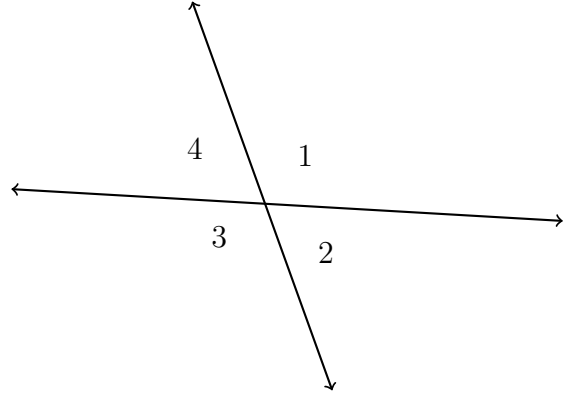
3.6 ReQuiz: Angle addition

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.

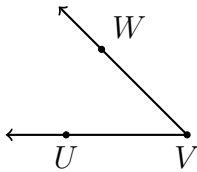
(b) Given $m\angle 4 = 70^\circ$, write down $m\angle 2$.

(c) Find $m\angle 1$.



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

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

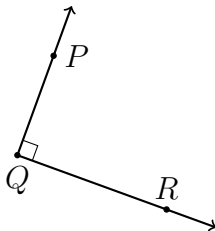


(b) Which of the following are true with respect to the angle, $m\angle PQR$?

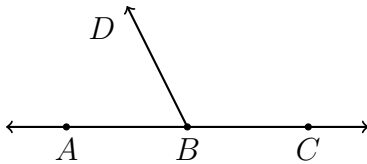
True False It is an acute angle

True False It's measure is 90°

True False $\overrightarrow{QP} \perp \overrightarrow{QR}$



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

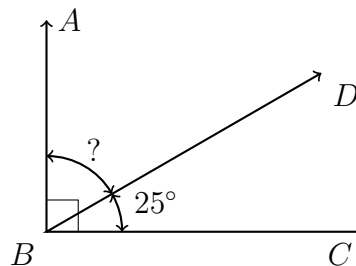


Angle addition situations

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

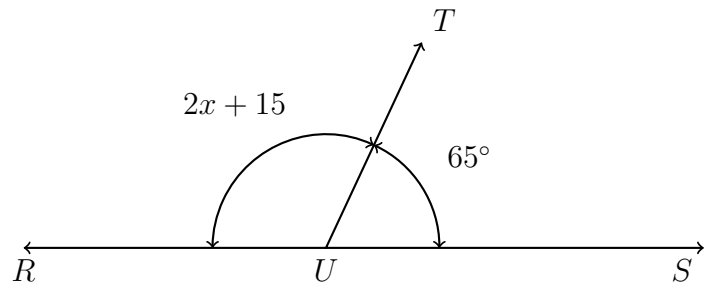
Given $m\angle CBD = 25^\circ$, $m\angle ABC = 90^\circ$.

Find $m\angle ABD$.



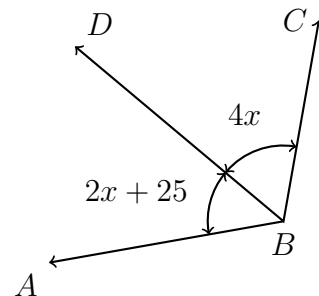
4. A linear pair is formed by two angles, $m\angle RUT = 2x + 15$ and $m\angle SUT = 65^\circ$.

Write an equation, then solve for x .



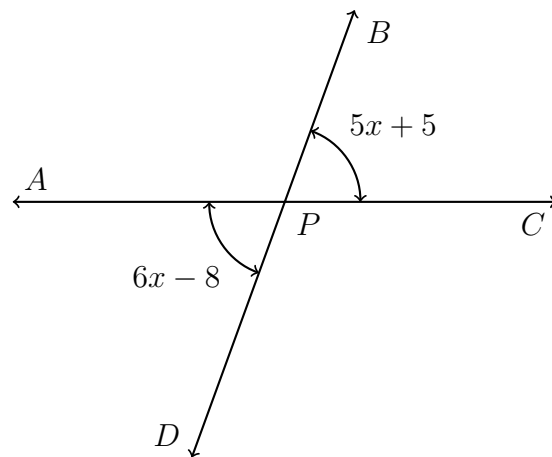
5. Given $m\angle ABD = 2x + 25$, $m\angle DBC = 4x$, and $m\angle ABC = 115^\circ$, as shown.

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



6. Given vertical angles, $m\angle APD = 6x - 8$, $m\angle BPC = 5x + 5$, as shown.

Find x . Check your solution for full credit.

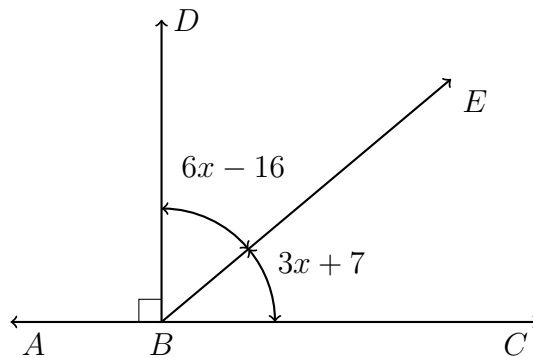


7. In the diagram shown, $\overrightarrow{BD} \perp \overleftrightarrow{AC}$ with angle measures marked. Find x .

Show the check for full credit.

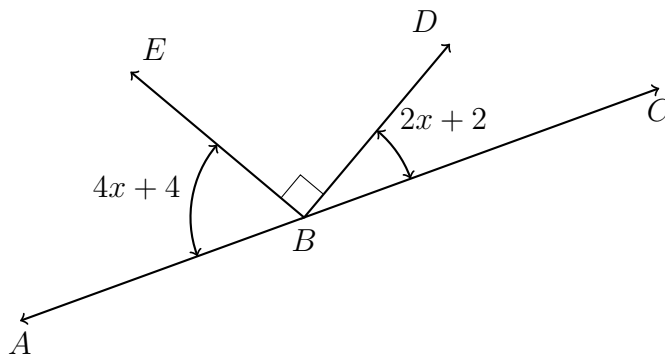
$$m\angle DBE = 6x - 16^\circ$$

$$m\angle EBC = 3x + 7^\circ$$



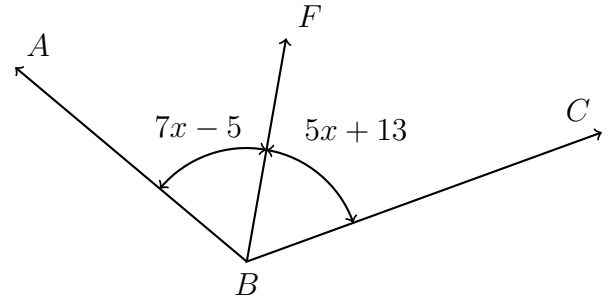
8. Spicy: Given \overleftrightarrow{ABC} , right angle $\angle DBE$, $m\angle ABE = 4x + 4$, and $m\angle CBD = 2x + 2$.

Find $m\angle CBD$.



9. Spicy: Ray \overrightarrow{BF} is the angle bisector of $\angle ABC$. Given that the angle measures are $m\angle ABF = 7x - 5$ and $m\angle CBF = 5x + 13$.

Find $m\angle ABC$.



10. Spicy: Ray \overrightarrow{XL} is the angle bisector of $\angle KXM$. Given $m\angle JXN = 4x - 23$.

Find $m\angle KXL$.

