

2.9 Quiz Angle terminology and angle addition

1. Type your answers. Use the less than key (“ $<$ ”) to represent an angle, followed by three letters.

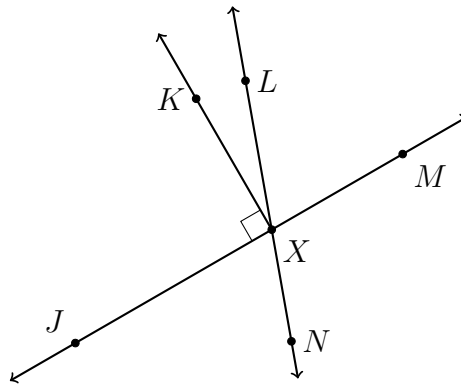
(a) Name a right angle: _____

(b) Name the angle vertical to $\angle LXM$: _____

(c) Name the ray opposite to \overrightarrow{XJ} : _____

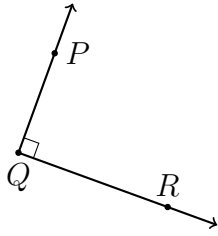
(d) What is the measure of $\angle KXM$? _____

(e) Spicy: Are $\angle JXL$ and $\angle LXM$ complementary, supplementary, or neither?

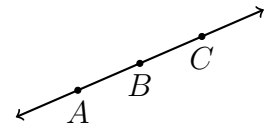


2. The size of an angle is its “measure,” which can be from 0° to 360°

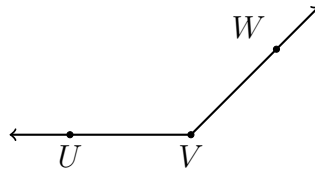
(a) What is the degree measure of the angle, $m\angle PQR$?



(b) What is the degree measure made by these two opposite rays, \overrightarrow{BA} and \overrightarrow{BC} ?



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

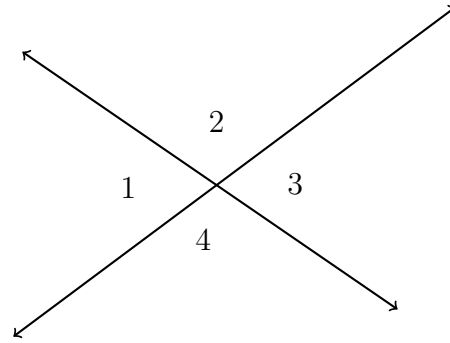


3. As shown below, two lines intersect making four angles: $\angle 1$, $\angle 2$, $\angle 3$, and $\angle 4$.

Given $m\angle 2 = 120^\circ$.

(a) Find $m\angle 3$

(b) Find $m\angle 4$

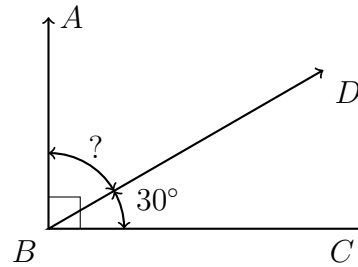


Angle addition situations

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

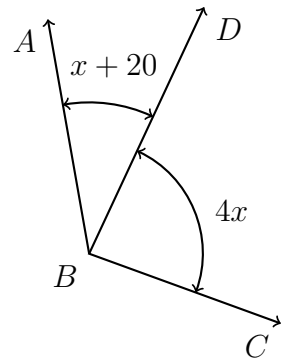
Given $m\angle CBD = 30^\circ$, $m\angle ABC = 90^\circ$.

Find $m\angle ABD$.



5. Given $m\angle ABD = x + 20$, $m\angle DBC = 4x$, and $m\angle ABC = 120^\circ$, as shown.

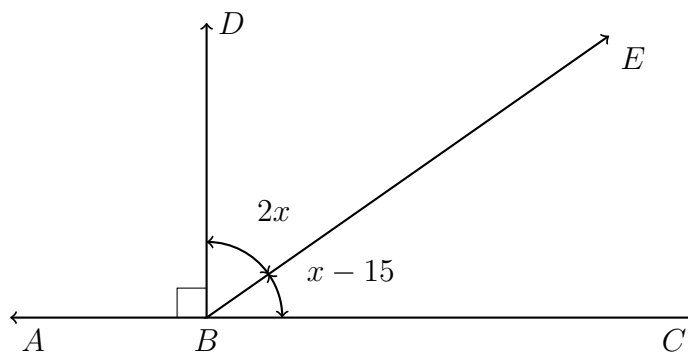
Write an equation and solve for x .



Show your check for full credit.

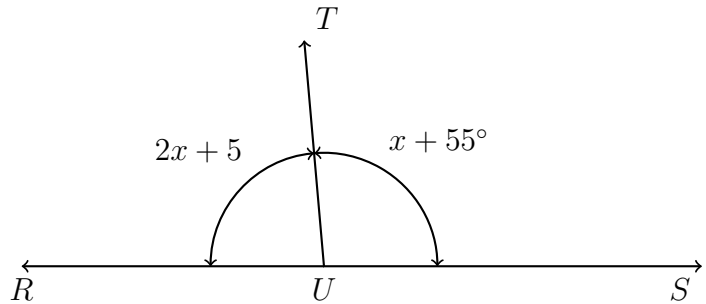
6. Given $\overrightarrow{BD} \perp \overleftrightarrow{AC}$, $m\angle DBE = 2x$, and $m\angle EBC = x - 15^\circ$, as shown below.

Write an equation and solve for x .



7. A linear pair is formed by two angles, $m\angle RUT = 2x + 5$ and $m\angle SUT = x + 55^\circ$.

Write an equation, then solve for x .

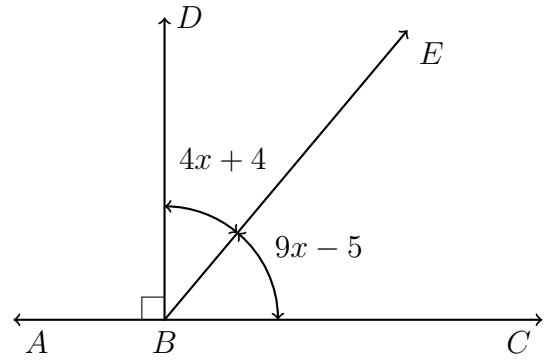


8. In the diagram shown, $\overrightarrow{BD} \perp \overrightarrow{ABC}$ and angle measures are given.

Find x . Show the check for full credit.

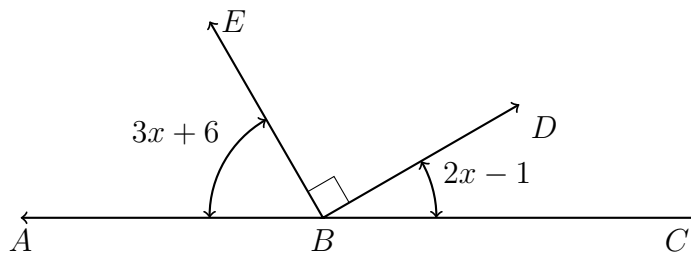
$$m\angle DBE = 4x + 4^\circ$$

$$m\angle EBC = 9x - 5^\circ$$



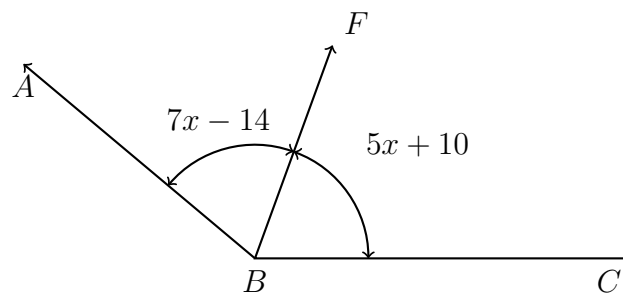
9. Spicy: Given \overleftrightarrow{ABC} , right angle $\angle DBE$, $m\angle ABE = 3x + 6$, and $m\angle DBC = 2x - 1$.

Find $m\angle ABE$.



10. Spicy: Ray \overrightarrow{BF} is the angle bisector of $\angle ABC$. Given that the angle measures are $m\angle ABF = 7x - 14$ and $m\angle CBF = 5x + 10$.

Find x .



11. Spicy: Given \overline{PQRS} . Q is the midpoint of \overline{PS} , and R bisects \overline{QS} .

If $PR = 4\frac{1}{2}$ find PS . Justify your answer.



12. Spicy: Given $A(0)$ and $T(2)$, as shown on the number line. T is one of the points that trisects \overline{AB} .

Find B . For full credit, find both solutions.

