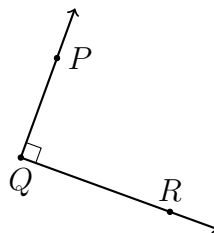
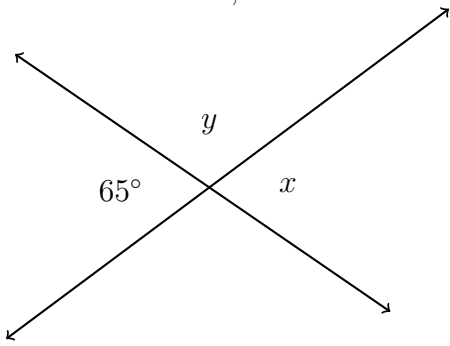


3.8 Review of angle addition; “Do NOT Solve”

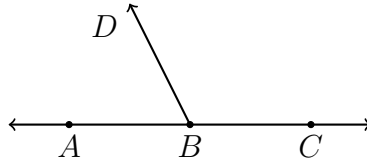


1. Write down an equation stating the value of the given angle.

2. As shown below, two lines intersect making four angles. Write two equations, one for x and one for y .

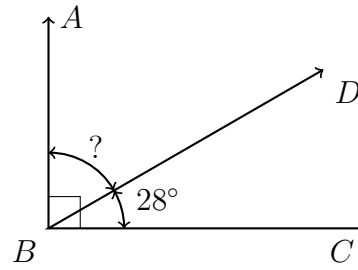


3. Write down an equation expressing the sum of the degree measures of this linear pair, $\angle ABD$ and $\angle CBD$.



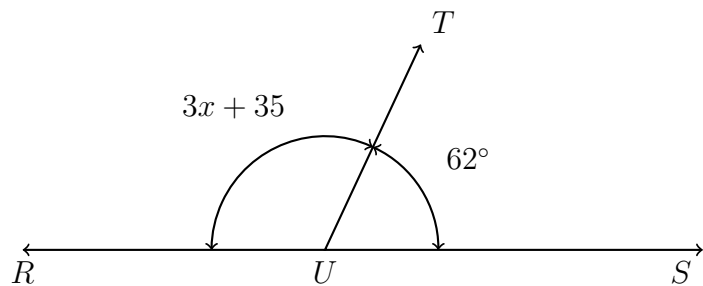
4. Apply the Angle Addition postulate. Given $m\angle CBD = 28^\circ$, $m\angle ABC = 90^\circ$.

Write an equation to represent the situation
(do not solve)



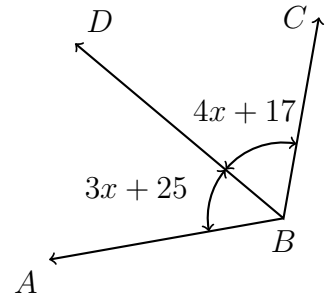
5. A linear pair is formed by two angles, $m\angle RUT = 3x + 35$ and $m\angle SUT = 62^\circ$.

Write an equation. *Do not* solve for x .



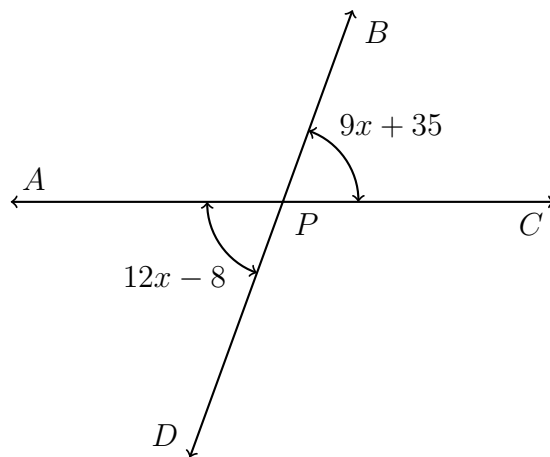
6. Given $m\angle ABD = 3x + 25$, $m\angle DBC = 4x + 17$, and $m\angle ABC = 119^\circ$, as shown.

Model the situation with an equation, but do not solve for x .



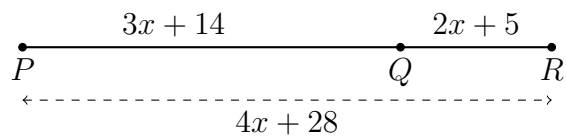
7. Given vertical angles, $m\angle APD = 12x - 8$, $m\angle BPC = 9x + 35$, as shown.

Write an equation that could be used to solve for x .



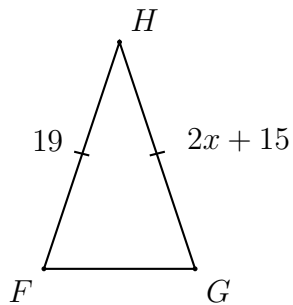
8. Given \overline{PQR} , $PQ = 3x + 14$, $QR = 2x + 5$, $PR = 4x + 28$.

Write down an equation to represent the situation.



9. The isosceles $\triangle FGH$ is shown with $\overline{FH} \cong \overline{GH}$. Given $GH = 2x + 15$ and $FH = 19$.

Write an equation that could be used to find x .



10. Given M is the midpoint of \overline{AB} , $AM = 7x + 1$, $MB = 33 - x$.

(a) Mark the diagram with the values and tick marks

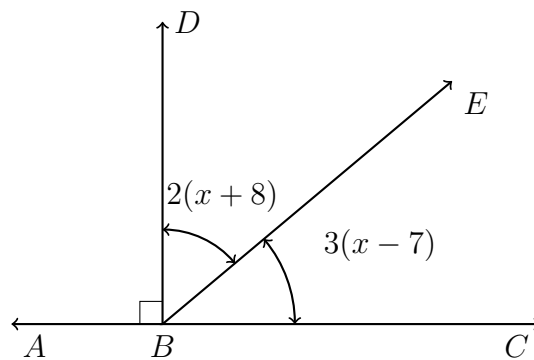
(b) Write an equation that could be solved for x



11. In the diagram shown, $\overrightarrow{BD} \perp \overrightarrow{ABC}$ with angle measures marked. Write an equation modeling the situation. (do not solve)

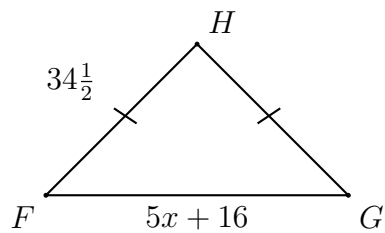
$$m\angle DBE = 2(x + 8)^\circ$$

$$m\angle EBC = 3(x - 7)^\circ$$



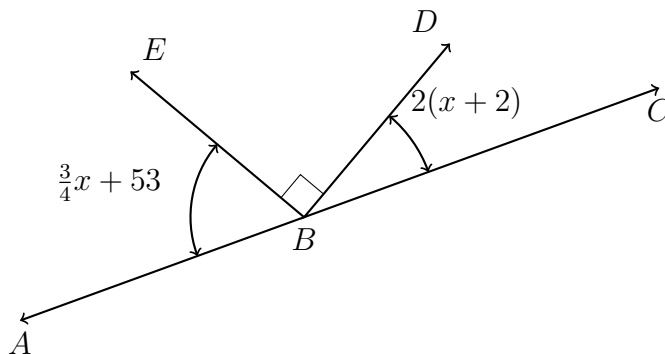
12. The perimeter of the isosceles $\triangle FGH$ is 115 and $\overline{FH} \cong \overline{GH}$. Given $FG = 5x + 16$ and $FH = 34\frac{1}{2}$.

Write an equation that could be used to find x .



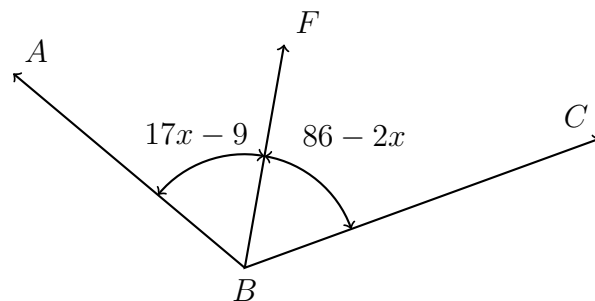
13. What equation could be used to solve for x ?

Given \overleftrightarrow{ABC} , right angle $\angle DBE$, $m\angle ABE = \frac{3}{4}x + 53$, and $m\angle CBD = 2(x + 2)$.



14. Ray \overrightarrow{BF} is the angle bisector of $\angle ABC$. Given that the angle measures are $m\angle ABF = 17x - 9$ and $m\angle CBF = 86 - 2x$.

Write an equation in terms of x to model the situation.



15. Spicy: Ray \overrightarrow{XL} is the angle bisector of $\angle KXM$. Given $m\angle MXN = 14x - 19$.

Write an equation that could be solved for the value of x in the diagram.

