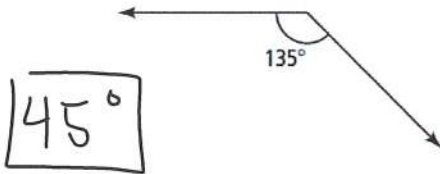


Supplementary Angles

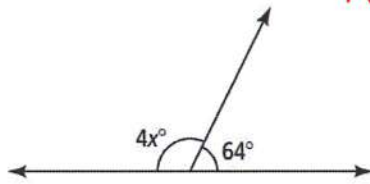
Supplementary angles are two angles that add up to 180° .

EX: ① What is the measure of the supplement of the angle below?



$$\begin{array}{r} 180 \\ - 135 \\ \hline 045 \end{array}$$

EX: ② What is the value of x ?



Angle 1 + Angle 2 = 180°

$$4x + 64 = 180$$

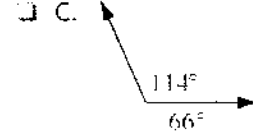
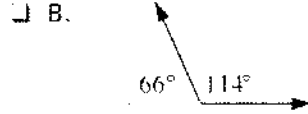
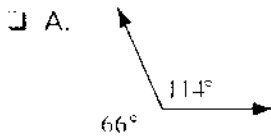
$$\begin{array}{r} 4x + 64 = 180 \\ - 64 \quad - 64 \\ \hline \end{array}$$

$$\begin{array}{r} 4x = 116 \\ \div 4 \quad \div 4 \\ \hline \end{array}$$

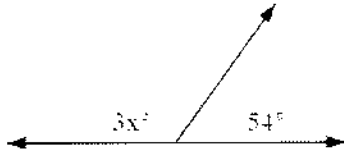
$$x = 29$$

Lesson 10-4 Homework

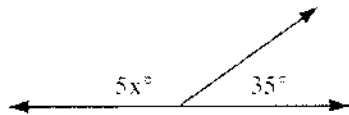
1. Which of the following is a correct drawing of an adjacent supplement of the figure? Check all that apply.



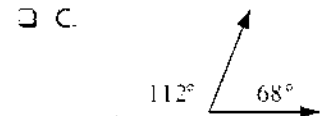
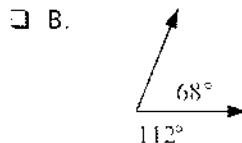
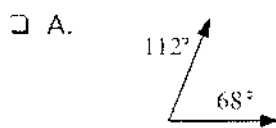
2. Find the supplementary angle of 128.9° .
3. Find the value of x using the measures of the two given adjacent supplementary angles.



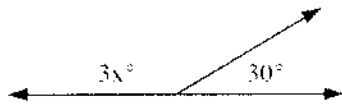
4. Solve for x if the angles are adjacent supplementary angles.



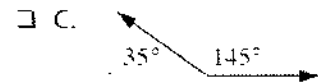
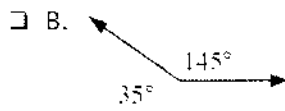
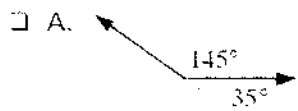
5. Which of the following is a correct drawing of an adjacent supplement of the figure? Check all that apply.



6. The angles are adjacent supplementary angles. What is the value of x ?

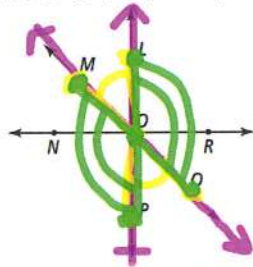


7. Which of the following is a correct drawing of an adjacent supplement? Check all that apply.



Vertical Angles

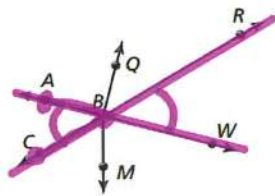
Vertical angles are two angles that are formed by two intersecting lines. They are opposite of each other. They are equal to each other.



• $\angle MOL \cong \angle POQ$

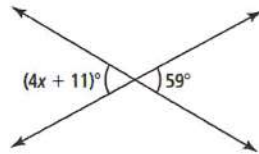
• $\angle MOP \cong \angle LOQ$

EX: ① Name the angle that is the vertical to $\angle ABC$.



$\angle RBW$ is vertical to $\angle ABC$

EX: ② What is the value of x ?



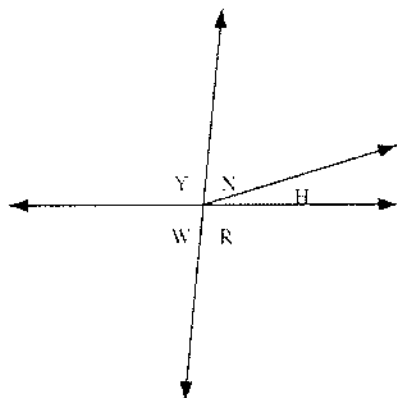
Vertical Angle = Vertical Angle

$$\begin{array}{r} 1 \\ 4x + 11 = 59 \\ 2 \end{array}$$

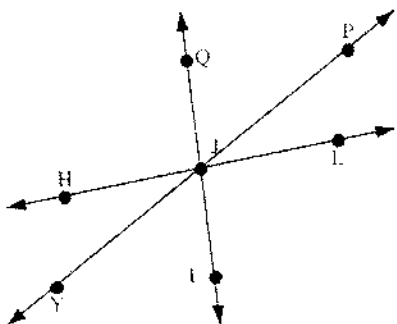
$$\begin{array}{r} 4x + 11 = 59 \\ \underline{-11} \quad \underline{-11} \\ 4x = 48 \\ \underline{\div 4} \quad \underline{\div 4} \\ \boxed{x = 12} \end{array}$$

Lesson 10-5 Homework

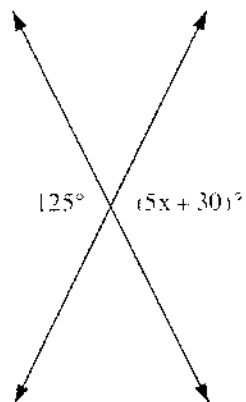
1. Find the pair of vertical angles in the figure.



2. Find the angle that is vertical to $\angle HJY$.

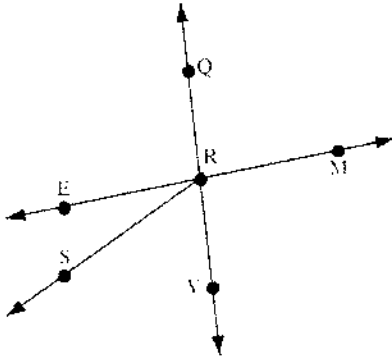


3. Find the value of x .

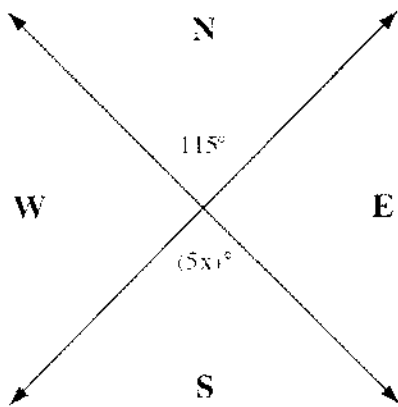


(The figure is not shown to scale.)

4. Find the angle that is vertical to $\angle QRM$.



5. While visiting your friend in the city, you see two roads that intersect as shown. Your friend tells you that the angle between the roads on the north side is 115° and the angle between the roads on the south side is $(5x)^\circ$. Find the value of x .



(The figure is not shown to scale.)