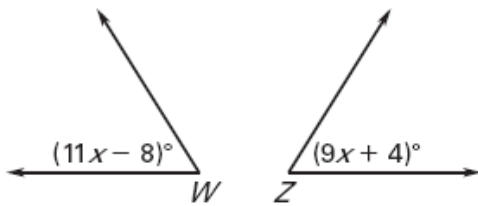


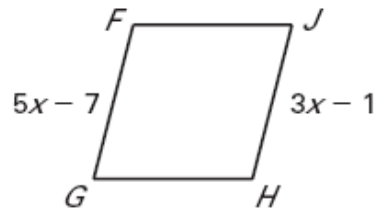
2.5.3 Prove Angle Pair Relationships

Solve for x using the given information. Explain your steps.

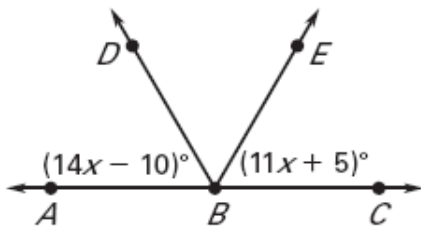
1. $\angle W \cong \angle Z$



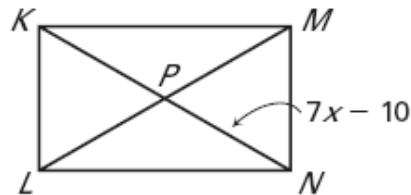
2. $\overline{FG} \cong \overline{FJ}, \overline{FJ} \cong \overline{JH}$



3. $\angle ABD \cong \angle DBE, \angle EBC \cong \angle DBE$

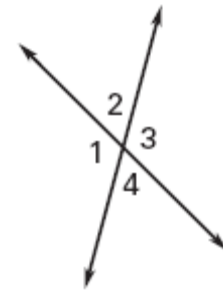


4. $\overline{KP} \cong \overline{PN}, KP = 18$

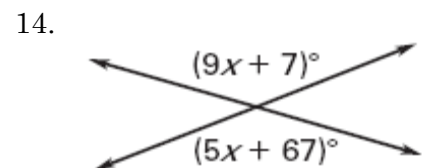
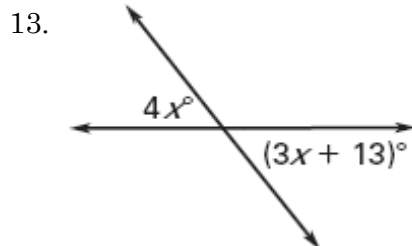
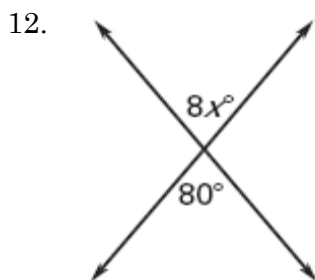
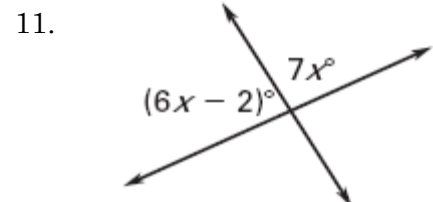
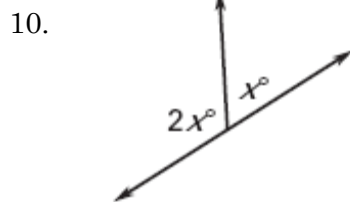
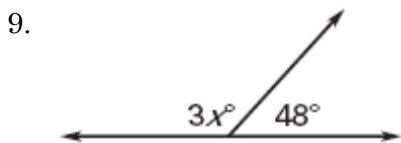


Use the diagram at the right.

5. If $m\angle 1 = 115^\circ$, then $m\angle 2 = \underline{\hspace{2cm}}$, $m\angle 3 = \underline{\hspace{2cm}}$, $m\angle 4 = \underline{\hspace{2cm}}$.
6. If $m\angle 2 = 64^\circ$, then $m\angle 1 = \underline{\hspace{2cm}}$, $m\angle 3 = \underline{\hspace{2cm}}$, $m\angle 4 = \underline{\hspace{2cm}}$.
7. If $m\angle 3 = 112^\circ$, then $m\angle 1 = \underline{\hspace{2cm}}$, $m\angle 2 = \underline{\hspace{2cm}}$, $m\angle 4 = \underline{\hspace{2cm}}$.
8. If $m\angle 4 = 67^\circ$, then $m\angle 1 = \underline{\hspace{2cm}}$, $m\angle 2 = \underline{\hspace{2cm}}$, $m\angle 3 = \underline{\hspace{2cm}}$.

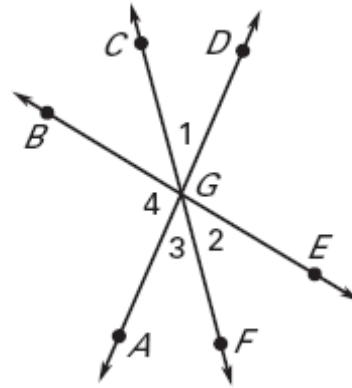


Find the value of x.



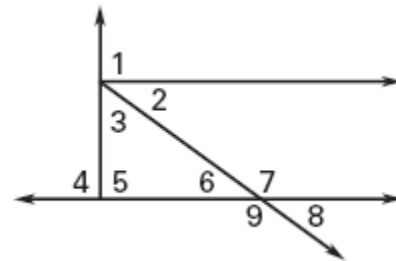
In the diagram at the right, $m\angle 1 = 38^\circ$ and $m\angle 4 = 98^\circ$. Find the indicated angle measure.

15. Find $m\angle 3 =$ _____ .
16. Find $m\angle DGE =$ _____ .
17. Find $m\angle CGE =$ _____ .
18. Find $m\angle 2 =$ _____ .
19. Find $m\angle AGC =$ _____ .



In the diagram, $\angle 1$ is a right angle and $m\angle 6 = 36^\circ$. Complete the statement with $<$, $>$, or $=$.

20. $m\angle 6 + m\angle 7$ _____ $m\angle 4 + m\angle 5$
21. $m\angle 6 + m\angle 8$ _____ $m\angle 2 + m\angle 3$
22. $m\angle 9$ _____ $3(m\angle 6)$
23. $m\angle 2 + m\angle 3$ _____ $m\angle 1$



Find the value of the variables and the measure of each angle in the diagram.

