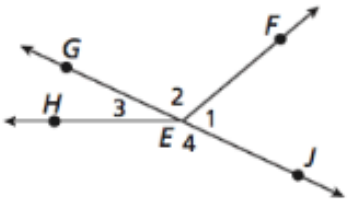
Math 2 Worksheet Angle Relationships

Vocabulary **Apply the vocabulary from this lesson to answer each question.**

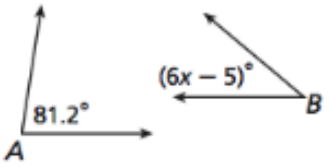
1. An angle measures $x°$. What is the measure of its *complement*? What is the measure of its *supplement*?
2. $\angle ABC$ and $\angle CBD$ are *adjacent angles*. Which side do the angles have in common?

Tell whether the angles are only adjacent, adjacent and form a linear pair, or not adjacent.

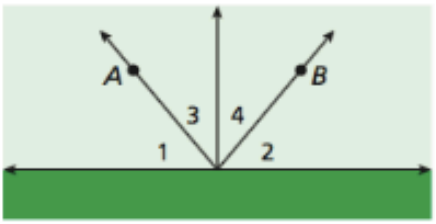


3. $\angle 1$ and $\angle 2$
4. $\angle 1$ and $\angle 3$
5. $\angle 2$ and $\angle 4$
6. $\angle 2$ and $\angle 3$

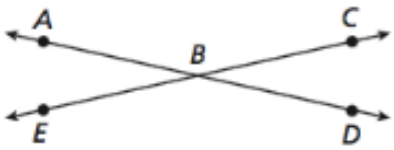
Find the measure of each of the following.



7. supplement of $\angle A$
8. complement of $\angle A$
9. supplement of $\angle B$
10. complement of $\angle B$
11. **Multi-Step** An angle's measure is 6 degrees more than 3 times the measure of its complement. Find the measure of the angle.
12. **Landscaping** A sprinkler swings back and forth between A and B in such a way that $\angle 1 \cong \angle 2$. $\angle 1$ and $\angle 3$ are complementary, and $\angle 2$ and $\angle 4$ are complementary. If $m\angle 1 = 47.5°$, find $m\angle 2$, $m\angle 3$, and $m\angle 4$.



13. Name each pair of vertical angles.



Multi-Step **$\angle ABD$ and $\angle BDE$ are supplementary. Find the measures of both angles.**

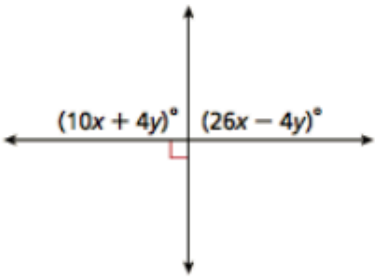
14. $m\angle ABD = 5x°$, $m\angle BDE = (17x - 18)°$
15. $m\angle ABD = (3x + 12)°$, $m\angle BDE = (7x - 32)°$
16. $m\angle ABD = (12x - 12)°$, $m\angle BDE = (3x + 48)°$

Multi-Step **$\angle ABD$ and $\angle BDC$ are complementary. Find the measures of both angles.**

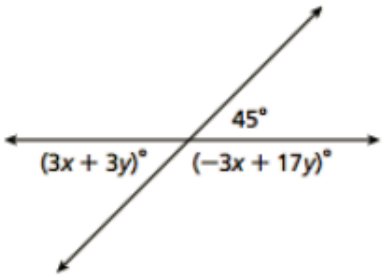
17. $m\angle ABD = (5y + 1)°$, $m\angle BDC = (3y - 7)°$
18. $m\angle ABD = (4y + 5)°$, $m\angle BDC = (4y + 8)°$
19. $m\angle ABD = (y - 30)°$, $m\angle BDC = 2y°$
20. **Critical Thinking** Explain why an angle that is supplementary to an acute angle must be an obtuse angle.

Solve for x and y.

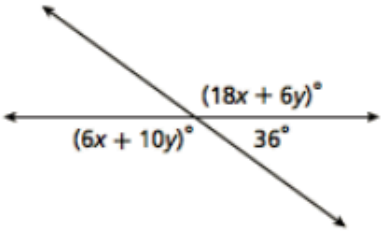
21.



22.



23.



24.