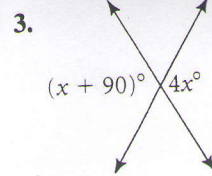
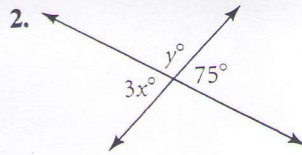
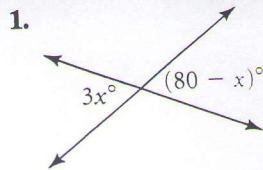


Find the value of each variable.



Find the measures of the labeled angles in each exercise.

4. Exercise 1

5. Exercise 2

6. Exercise 3

7. **Developing Proof** Complete this proof of one form of Theorem 2-3 by filling in the blanks.

If two angles are complements of the same angle, then the two angles are congruent.

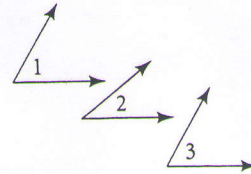
Given: $\angle 1$ and $\angle 2$ are complementary.
 $\angle 3$ and $\angle 2$ are complementary.

Prove: $\angle 1 \cong \angle 3$

Proof: By the definition of complementary angles,
 $m\angle 1 + m\angle 2 = \mathbf{a. ?}$ and $m\angle 3 + m\angle 2 = \mathbf{b. ?}$.

Then $m\angle 1 + m\angle 2 = m\angle 3 + m\angle 2$ by **c. ?**.

Subtract $m\angle 2$ from each side. You get $m\angle 1 = \mathbf{d. ?}$, or $\angle 1 \cong \angle 3$.



8. **Writing** How is a theorem different from a postulate?

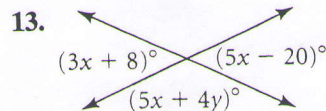
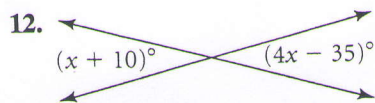
9. **Open-Ended** Give an example of vertical angles in your home.

10. **Reasoning** Explain why this statement is true:

If $m\angle 1 + m\angle 2 = 180$ and $m\angle 3 + m\angle 2 = 180$, then $\angle 1 \cong \angle 3$.

11. **Design** The two back legs of the director's chair pictured at the left meet in a 72° angle. Find the measure of each angle formed by the two back legs.

x² **Algebra** Find the value of each variable and the measure of each labeled angle.



14. **Developing Proof** Complete this proof of Theorem 2-4 by filling in the blanks.

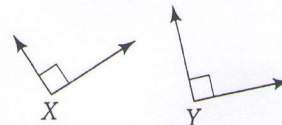
All right angles are congruent.

Given: $\angle X$ and $\angle Y$ are right angles.

Prove: $\angle X \cong \angle Y$

Proof: By the definition of **a. ?**, $m\angle X = 90$ and $m\angle Y = 90$.

By the Substitution Property, $m\angle X = \mathbf{b. ?}$, or $\angle X \cong \angle Y$.



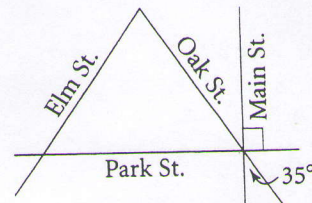
15. **Multiple Choice** What is the measure of the angle formed by Park St. and Oak St.?

(A) 35°

(C) 55°

(B) 45°

(D) 90°



Name two pairs of congruent angles in each figure. Justify your answers.

