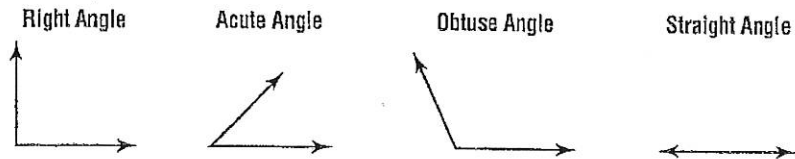


**10-1**

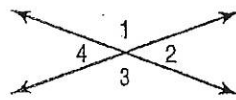
**Study Guide and Intervention**

**Angle Relationships**

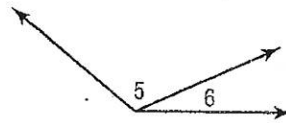
- An **angle** has two sides that share a common endpoint. The point where the sides meet is called the **vertex**. Angles are measured in **degrees**, where 1 degree is one of 360 equal parts of a circle.
- Angles are classified according to their measure.



- Two angles are **vertical** if they are opposite angles formed by the intersection of two lines.
- Two angles are **adjacent** if they share a common vertex, a common side, and do not overlap.

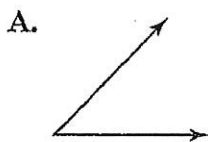


$\angle 1$  and  $\angle 3$  are vertical angles.  
 $\angle 4$  and  $\angle 2$  are vertical angles.

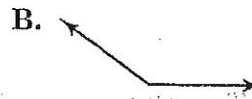


$\angle 5$  and  $\angle 6$  are adjacent angles

**Example 1** Classify each angle as *acute*, *obtuse*, *right*, or *straight*.

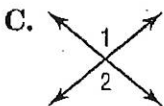


The angle is less than  $90^\circ$ , so it is an acute angle.

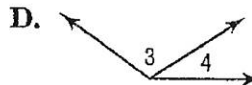


The angle is greater than  $90^\circ$ , so it is an obtuse angle.

**Example 2** Label the two angles *vertical* or *adjacent*.



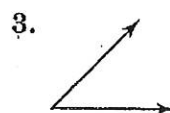
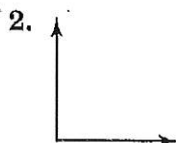
These angles are vertical because they are opposite each other and formed by two intersecting lines.



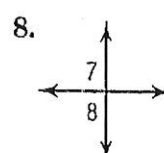
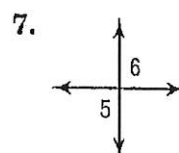
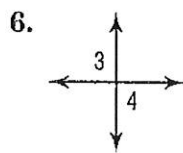
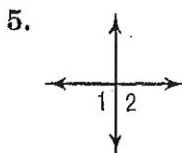
These angles are adjacent because they share a common vertex, a common side, and do not overlap.

**Exercises**

Classify each angle as *acute*, *obtuse*, *right*, or *straight*.



Label the angles *vertical* or *adjacent*.



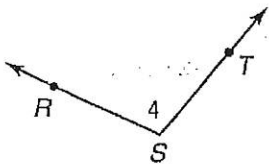
**10-1**

**Practice**

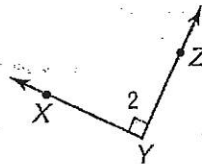
**Angle Relationships**

Name each angle in four ways. Then classify the angle as *acute*, *right*, *obtuse*, or *straight*.

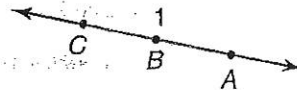
1.



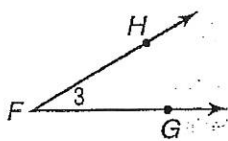
2.



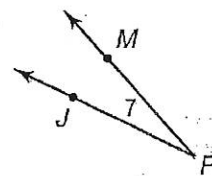
3.



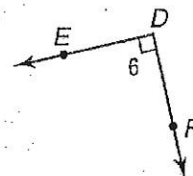
4.



5.



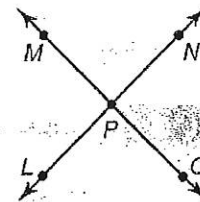
6.



Use the figure at the right to answer Questions 7 and 8.

7. Name two angles that are vertical.

8. Name two angles that are adjacent.



Use the figure at the right to name the following.

9. two acute angles

10. two straight angles

11. two right angles

12. two obtuse angles

