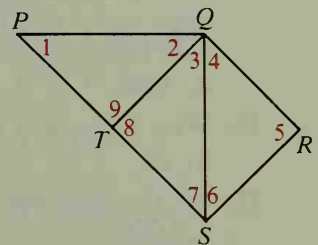## Chapter 2

Indicate the best answer by writing the appropriate letter.

1. If $m \angle 1 = 60$ and $m \angle 2 = 30$, then $\angle 1$ and $\angle 2$ *cannot* be which of the following?
   a. acute $\angle$s
   b. adjacent $\angle$s
   c. vertical $\angle$s
   d. complementary $\angle$s

2. Given: If q, then r. Which of the following is the converse of the given conditional?
   a. r implies q.
   b. r if q.
   c. q only if r.
   d. r if and only if q.

3. What are basic mathematical assumptions called?
   a. theorems   **b.** postulates   **c.** conditionals   **d.** conclusions

4. Which of the following *cannot* be used as a reason in a proof?
   a. a definition
   b. a postulate
   c. yesterday's theorem
   d. tomorrow's theorem

5. $\angle A$ and $\angle B$ are supplements, $m \angle A = 2x - 14$, and $m \angle B = x + 8$. Find the measure of $\angle B$.
   a. 62   **b.** 30   **c.** 40   **d.** 70

6. If $\angle 1$ and $\angle 2$ are complements, $\angle 2$ and $\angle 3$ are complements, and $\angle 3$ and $\angle 4$ are supplements, what are $\angle 1$ and $\angle 4$?
   a. supplements   **b.** complements   **c.** congruent angles   **d.** can't be determined

7. The statement "If $m \angle A = m \angle B$ and $m \angle D = m \angle A + m \angle C$, then $m \angle D = m \angle B + m \angle C$" is justified by what property?
   a. Transitive   **b.** Substitution   **c.** Symmetric   **d.** Reflexive

8. If $\overline{TQ} \perp \overline{QR}$, which angles *must* be complementary angles?
   a. $\angle 2$ and $\angle 3$
   b. $\angle 3$ and $\angle 4$
   c. $\angle 5$ and $\angle 8$
   d. $\angle 3$ and $\angle 7$

9. If $m \angle 8 = x + 80$, what is the measure of $\angle 9$?
   a. $100 - x$
   b. $100 + x$
   c. $x - 80$
   d. $x - 180$

10. If $\overline{QT} \perp \overline{PS}$, which statement is *not* always true?
    a. $\angle 8 \cong \angle 9$
    b. $\angle 2 \cong \angle 3$
    c. $\angle 8$ is a rt. $\angle$.
    d. $\angle 8$ and $\angle 9$ are supp. $\angle$s.

11. If $\overrightarrow{SQ}$ bisects $\angle RST$, which statement *must* be true?
    a. $2 \cdot m \angle 6 = m \angle RST$
    b. $\frac{1}{2}m \angle 7 = m \angle RST$
    c. $\angle 4 \cong \angle 6$
    d. $\angle RST \cong \angle RQT$

Exs. 8–11