# Cumulative Review: Chapters 1–7

## True-False Exercises

**Write T or F to indicate your answer.**

A

1. If $AX = XB$, then $X$ must be the midpoint of $\overline{AB}$.
2. Definitions may be used to justify statements in a proof.
3. If a line and a plane are parallel, then the line is parallel to every line in the plane.
4. When two parallel lines are cut by a transversal, any two angles formed are either congruent or supplementary.
5. If the sides of one triangle are congruent to the corresponding sides of another triangle, then the corresponding angles must also be congruent.
6. Every isosceles trapezoid contains two pairs of congruent angles.

B

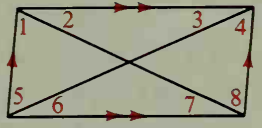
7. If a quadrilateral has two pairs of supplementary angles, then it must be a parallelogram.
8. If the diagonals of a quadrilateral bisect each other and are congruent, then the quadrilateral must be a square.
9. In $\triangle PQR$, $m\angle P = m\angle R = 50$. If $T$ lies on $\overline{PR}$ and $m\angle PQT = 42$, then $PT < TR$.
10. In quad. $WXYZ$, if $WX = XY = 25$, $YZ = 20$, $ZW = 16$, and $WY = 20$, then $\overline{WY}$ divides the quadrilateral into two similar triangles.
11. Two equiangular hexagons are always similar.

## Multiple-Choice Exercises

**Indicate the best answer by writing the appropriate letter.**

A

1. Which pair of angles must be congruent?




   **a.** $\angle 1$ and $\angle 4$ **b.** $\angle 2$ and $\angle 3$
   **c.** $\angle 2$ and $\angle 4$ **d.** $\angle 4$ and $\angle 5$
   **e.** $\angle 2$ and $\angle 8$

2. If $a$, $b$, $c$, and $d$ are coplanar lines such that $a \perp b$, $c \perp d$, and $b \parallel c$, then:
   **a.** $a \perp d$ **b.** $b \parallel d$ **c.** $a \parallel d$ **d.** $a \parallel c$ **e.** none of these
3. If $\triangle ABC \cong \triangle NDH$, then it is also true that:
   **a.** $\angle B \cong \angle H$ **b.** $\angle A \cong \angle H$ **c.** $\overline{AB} \cong \overline{HD}$
   **d.** $\overline{CA} \cong \overline{HN}$ **e.** $\triangle CBA \cong \triangle DHN$

B

4. If $PQRS$ is a parallelogram, which of the following *must* be true?
   **a.** $PQ = QR$ **b.** $PQ = RS$ **c.** $PR = QS$ **d.** $\overline{PR} \perp \overline{QS}$ **e.** $\angle Q \cong \angle R$
5. Which of the following can be the lengths of the sides of a triangle?
   **a.** 3, 7, 10 **b.** 3, 7, 11 **c.** 0.5, 7, 7 **d.** $\frac{1}{2}, \frac{1}{4}, \frac{1}{5}$ **e.** 1, 3, 5