

### Always-Sometimes-Never Exercises

Write A, S, or N to indicate your choice.

- A**
1. If a conditional is false, then its converse is ? false.
  2. Two vertical angles are ? adjacent.
  3. An angle ? has a complement.
  4. Two parallel lines are ? coplanar.
  5. Two perpendicular lines are ? both parallel to a third line.
  6. A scalene triangle is ? equiangular.
  7. A regular polygon is ? equilateral.
  8. A rectangle is ? a rhombus.
  9. If  $\overline{RS} \cong \overline{MN}$ ,  $\overline{ST} \cong \overline{NO}$ , and  $\angle R \cong \angle M$ , then  $\triangle RST$  and  $\triangle MNO$  are ? congruent.
  10. The HL method is ? appropriate for proving that two acute triangles are congruent.
  11. If  $AX = BX$ ,  $AY = BY$ , and points  $A$ ,  $B$ ,  $X$ , and  $Y$  are coplanar, then  $\overline{AB}$  and  $\overline{XY}$  are ? perpendicular.
- B**
12. The diagonals of a trapezoid are ? perpendicular.
  13. If a line parallel to one side of a triangle intersects the other two sides, then the triangle formed is ? similar to the given triangle.
  14. If  $\triangle JKL \cong \triangle NET$  and  $\overline{NE} \perp \overline{ET}$ , then it is ? true that  $LJ < TE$ .
  15. If  $AB + BC > AC$ , then  $A$ ,  $B$ , and  $C$  are ? collinear points.
  16. A triangle with sides of length  $x - 1$ ,  $x$ , and  $x$  is ? an obtuse triangle.

### Completion Exercises

Complete each statement in the best way.

- A**
1. If  $\overrightarrow{YW}$  bisects  $\angle XYZ$  and  $m\angle WYX = 60$ , then  $m\angle XYZ = \underline{\hspace{1cm}}$ .
  2. The acute angles of a right triangle are ?.
  3. A supplement of an acute angle is a(n) ? angle.
  4. Adjacent angles formed by ? lines are congruent.
  5. The measure of each interior angle of a regular pentagon is ?.
  6. In  $\triangle ABC$  and  $\triangle DEF$ ,  $\angle A \cong \angle D$  and  $\angle B \cong \angle E$ .  $\triangle ABC$  and  $\triangle DEF$  must be ?.
- B**
7. When the midpoints of the sides of a rhombus are joined in order, the resulting quadrilateral is best described as a ?.
  8. If  $\frac{r}{s} = \frac{t}{u}$ , then  $\frac{r+s}{t+u} = \frac{?}{?}$ .
  9. The ratio of the measures of the acute angles of a right triangle is 3:2. The measure of the smaller acute angle is ?.