Cumulative Review: Chapters 1-14

True-False Exercises

Classify each statement as true or false.

A

1. Three given points are always coplanar.
2. Each interior angle of a regular n-gon has measure $\frac{(n-2)180}{n}$.
3. If $\triangle RST \cong \triangle RSV$, then $\angle SRT \cong \angle SRV$.
4. The contrapositive of a true conditional is sometimes false.
5. Corresponding parts of similar triangles must be congruent.
6. An acute angle inscribed in a circle must intercept a minor arc.
7. In a plane the locus of points equidistant from M and N is the midpoint of $\overline{MN}$.
8. If a cylinder and a right prism have equal base areas and equal heights, then they have equal volumes.
9. A triangle with vertices $(a, 0)$, $(-a, 0)$, and $(0, a)$ is equilateral.
10. If the slopes of two lines have opposite signs, the lines are perpendicular.
11. $R_k \circ R_k = I$
12. If a figure has 90° rotational symmetry, then it also has point symmetry.

B

13. A point lies on the bisector of $\angle ABC$ if and only if it is equidistant from A and C.
14. In $\triangle RST$, if $RS < ST$, then $\angle R$ must be the largest angle of the triangle.
15. A triangle with sides of length $2x$, $3x$, and $4x$ must be obtuse.
16. In a right triangle, the altitude to the hypotenuse is always the shortest of the three altitudes.
17. Given a segment of length t, it is possible to construct a segment of length $t\sqrt{3}$.
18. If an equilateral triangle and a regular hexagon are inscribed in a circle, then the ratio of their areas is 1:2.
19. The lateral area of a cone can be equal to the area of the base of the cone.
20. The circle $(x + 3)^2 + (y - 2)^2 = 4$ is tangent to the line $x = -1$.

Multiple-Choice Exercises

Write the letter that indicates the best answer.

A

1. The measure of an interior angle of a regular decagon is:
   a. 36 **b.** 108 **c.** 72 **d.** 144
2. Which of the following is *not* a method for proving two triangles congruent?
   a. HL **b.** AAS **c.** SSA **d.** SAS