Lesson 10.1: The Geometry of Solids

In this lesson you will:
- learn about polyhedrons, including prisms and pyramids
- learn about solids with curved surfaces, including cylinders, cones, and spheres

*Add "polyhedron," "prism," "right (cone, cylinder, or prism)", "oblique (cone, cylinder, or prism)," "pyramid," "cylinder," "axis," "cone," "sphere," "hemisphere," and "great circle" to your dictionary.

In this chapter you will study three-dimensional solid figures. Lesson 10.1 introduces various types of three-dimensional solids and the terminology associated with them. Read the lesson (pgs. 520-524). Then review what you read by completing the statements and answering the questions below.

1. A polyhedron is a solid formed by _____ that enclose a single region of space.

2. A segment where two faces of a polyhedron intersect is called a(n) _____.

3. A polyhedron with six faces is called a(n) _____.

4. A tetrahedron has _____ faces.

5. If a face of a polyhedron is enclosed by a regular polygon, and each face is congruent to the other faces, and the faces meet each vertex in exactly the same way, then the polyhedron is called a(n) _____.

6. A(n) _____ is a polyhedron with 2 faces, called bases, that are congruent, parallel polygons.

7. The faces of a prism that are not bases are called _____.

8. What is the difference between a right prism and an oblique prism?

   _____

   _____

9. What type of solid is shown at right? _____
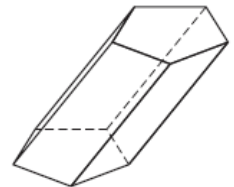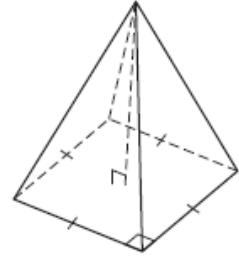
10. How many bases does a pyramid have? _____

11. The point that all the lateral faces of a pyramid have in common is the _____ of the pyramid.

12. What is the difference between an altitude of a pyramid and the height of a pyramid?

_____

_____

13. What type of solid is shown at right? _____

14. Name three types of solids with curved surfaces.

   • _____

   • _____

   • _____

15. A(n) _____ is the set of all points in space at a given distance from a given point.

16. A circle that encloses the base of a hemisphere is called a(n) _____.

17. Give an example of a real object that is shaped like a cylinder. _____ Explain how you know that it is a cylinder.

_____

_____

18. Label each cylinder below as an oblique cylinder or a right cylinder. For each cylinder, draw and label the *axis* and the *altitude*.
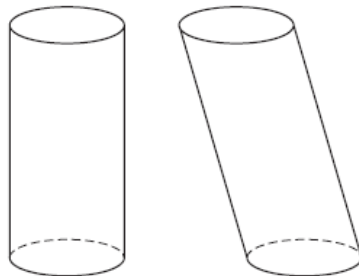
19. The base of a cone is a(n) _____.

20. If the line segment connecting the vertex of a cone with the center of the base is perpendicular to the base, then the cone is a(n) _____.

⇒**ASSIGNMENT**: _____