**Lesson 13.1: Volume of Prisms/Cylinders**

**Volume of a Prism:**



**Ex1)** Find the volume

**a) b)**

**Volume of a Cylinder:**



**Ex2)** Find the Volume

Volume of an Oblique Solid:

**Ex3)**

**Lesson 13-2: Volume of Pyramids and Cones**

**Volume of a Pyramid: Volume of a Cone:**



**Ex1)** Find the Volume **Ex2)** Find the Volume

**Ex3)** Find the Volume of the Oblique Cone



**Lesson 13-3: Volume of Spheres**

**Volume of a Sphere:**



**Ex1)** Find the volume of the sphere. Round to the nearest tenth.



a. b. 

**Ex2)** Find the volume of the hemisphere. Round to the nearest tenth.



**Lesson 13-4: Congruent and Similar Solids**

**Similar solids** are solids that have exactly the same shape but not necessarily the same size.

* If the corresponding sides are proportional, then the solid is similar!

**Congruent solids** are solids with exactly the same shape and same size.

* If the corresponding sides are congruent, then the solid is congruent!

**Ex1)** Determine whether each pair of solids is *similar*, *congruent*, or *neither.*

1. 
2. 

**THEOREM:**

If two solids are similar with a scale factor of $\frac{a}{b} $

Their surface areas have a ratio of $\frac{a^{2}}{b^{2}}$

Their volumes have a ratio of $\frac{a^{3}}{b^{3}}$

**Ex2)** A softball has a diameter of 3.8 inches, while a baseball has a diameter of 2.9 inches.

1. Find the scale factor of the softball and baseball.
2. Find the ratio of the surface areas of the softball and baseball.
3. Find the ratio of the volumes of the softball and baseball.
4. The volume of the softball is about 28.7 cubic inches. Find the volume of the baseball.