Practice Worksheet for Lesson 12-4 Name:

Mailbox #:

1) If the radius of a sphere is multiplied by 3, then the area of the sphere is multiplied by _____ and the volume is multiplied by _____.

2) A plane passes 3 in. from the center of a sphere with a radius of 5 in. Find the area of the circle of intersection.

3) When a plane passes 5 ft from the center of a sphere, the radius of the circle of intersection is 12 ft. Find the volume of the sphere.

4) A sphere has a radius 2 and a hemi-sphere (half a sphere) has radius 4. What is the ratio of their volumes?

5) Approximately 70% of the earth's surface is covered by water. Find the area covered by water to the nearest million square kilometers. (the radius of the earth is approximately 6380 km).

6) A plane passes 8 cm from the center of a sphere with radius 17cm. Find the area of the circle of intersection.

7) If you have a sphere inscribed inside a cube with edges 6 meters long, find the volume of the space between the cube and sphere.

8) If the radius of a sphere is halved, the area of the sphere is multiplied by

_____ and the volume is multiplied buy _____.

9) Betty made two candles, one in the shape of a sphere with radius 5 cm and another in the shape of a cylinder with radius 5 cm and height 6 cm. Which candle required more wax?

10) a) Find the volume of a sphere inscribed in a cylinder with diameter and height each 5 cm.

b) find the volume of the region between the cylinder and sphere