Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **Unit 10 Review**

Monica

Geometry Period:\_\_\_\_

Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**Directions:** Answer all of the questions below and be sure to show all of your work! You may use the Regents reference sheet to help you.

1) Shannon has a rectangular prism with a length of 12 centimeters, a width of 6 centimeters, and an unknown height. She needs to build another rectangular prism with a length of 3 centimeters and the same height as the original prism. The volume of the two prisms will be the same. Find the width, in centimeters, of the new prism.

2) A fish tank with a rectangular base has a volume of 3,360 cubic inches. The length and width of the tank are 14 inches and 12 inches, respectively. Find the height, in inches, of the tank.

3) The volume of a rectangular pool is 51,840 cubic feet. Its length, width, and depth are in the ratio 5:3:2. Find the number of feet in each of the three dimensions of the pool.

4) The base of a pyramid is a rectangle with a width of 6 cm and a length of 8 cm. Find, in centimeters, the height of the pyramid if the volume is .

5) The similarity ratio of two similar solids is 3:5. If the volume of the smaller solid is 108 cubic inches, what is the volume of the larger solid?

6) The ratio of the surface areas of two similar solids is 8:18. If the volume of the smaller figure is 54 cubic inches, what is the volume of the larger figure?

7) The legs of a right triangle are 6 and 8 inches. The area of a similar triangle is 384 square inches. What is the length of the hypotenuse of the larger triangle?

8) If the volume of a sphere is cubic inches, what is the surface area of the sphere?

9) A cone has a diameter of 36 inches and a vertical height of 24 inches. What is the lateral area of the cone? Leave your answer in terms of .

10) If the radius of a sphere is doubled, how does the volume of the sphere change?

1. The volume is doubled
2. The volume is multiplied by 4
3. The volume is multiplied by 8
4. The volume is halved

11) If the length of a rectangular prism is tripled, the width is doubled, and the height is quadrupled, how does the volume of the rectangular prism change?

1. The volume is multiplied by 24
2. The volume is multiplied by 12
3. The volume is multiplied by 9
4. The volume is multiplied by 36