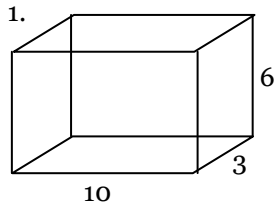Per: _____ Name: _____

Chapter 12 Review

Calculate the listed values, then find the values for the Lateral Area, Total Area, and Volume. Show your work and state all equations used.
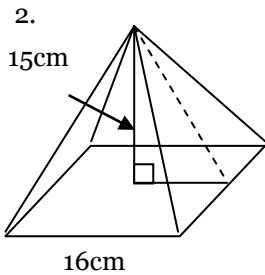
1.

6

3

10

p = _____
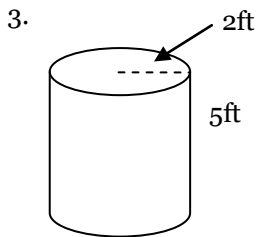
h = _____

B = _____

L.A. =	T.A. =	V =

2.

15cm

16cm

p = _____

l = _____

h = _____

B = _____

L.A. =	T.A. =	V =

3.

2ft

5ft

r = _____

d = _____

h = _____

B = _____

L.A. =	T.A. =	V =

4.

13

10
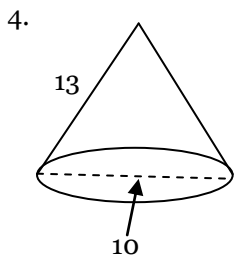
r = _____

h = _____

ℓ = _____

B = _____

L.A. =	T.A. =	V =

Organize your work. Solve for the missing length or value. *Diagrams are not required.*

5. The total area of a cube is 216. Find the **Lateral Area**.

6. A cylinder of height 3 holds 48π gallons of water. If it is transferred perfectly to a tank that is four times as tall, find the **diameter** of the new tank.

Draw and label diagrams to represent the given word problem. Solve, showing all work and any formulas used.

7. You are trying to paint all walls, ceiling and floor of a rectangular room that is 12 ft. by 8 ft. all the same color and with one coat. The distance from the floor to the ceiling is 9ft. You have 3 1-gallon buckets of paint that each covers 351 ft². Do you have enough paint to cover the entire room once?

8. You want to pour a can of soda into a glass cup and the only one you have available is approximately 4 inches in diameter and 3 inches tall. If a can of soda is approximately 5 inches high and 2 inches in diameter, will all of your soda fit in the new cup (assuming you don't use ice)?

9. If the original scale factor of a solid is a:b, then name the ratios of:

   a. Lengths =   b. Areas =   c. Volumes =

10. Given the ratio of radii is 3:4, then,

   Scale factor = _____:_____

   a. Ratio of volumes = _____:_____

   b. Ratio of lateral area = _____:_____

   c. Ratio of circumference =_____:_____

   d. Ratio of total area = _____:_____

11. Given base areas are 8π and 18π, then,

   Scale factor = _____:_____

   a. Ratio of base edge = _____:_____

   b. Ratio of volume = _____:_____

   c. Ratio of lateral area = _____:_____

   d. Ratio of height = _____:_____

The following solids are similar. Use the given information to solve for the missing value. *(3 pts. ea)*

12. The scale factor of solid A : solid B is 1:5.

   If solid A has a slant height of 8, calculate the slant height of solid B.

13. The scale factor of solid C : solid D is 5:2.

   If solid C has a volume of 250, calculate the volume of solid D.

14. The scale factor of solid E : solid F is 3:4.

   If solid E has a base area of 27, calculate the base area of solid F.

15. The scale factor of solid G : solid H is 2:1.

   If solid G has a circumference of 16π, calculate the circumference of solid H.