Name: _____

4.REV.3 – End of Chapter Review (2)

Past due on: _____ Period: _____

SHOW ALL WORK ON A SEPARATE SHEET OF PAPER.

1. The volume of a pyramid is 42 cubic meters. If its base has an area of 14 square meters, what is the pyramid's height?

2. What volume of gas, to the nearest cubic foot, is needed to inflate a spherical balloon to a diameter of 10 feet?

3. ERROR ANALYSIS ~ Which volume is incorrect? Explain your reasoning.

A

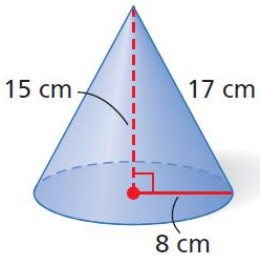
$V = \frac{1}{3}(8^2\pi)(17)$

$= \frac{1088\pi}{3}\ cm^3$

B

$V = \frac{1}{3}(8^2\pi)(15)$

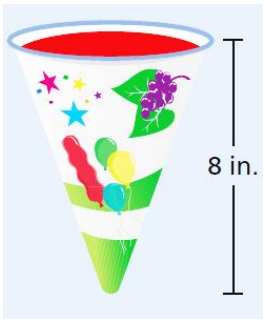
$= 320\pi\ cm^3$



4. A spherical scoop of ice cream with a diameter of 4 centimeters rests on top of a sugar cone that is 10 centimeters deep and has a diameter of 4 centimeters. If the ice cream melts, will the cone overflow? Show work to support your answer.

5. Which has a greater volume a can of soup with a diameter of 7 centimeters and a height of 10 centimeters, or one family-size can of soup, which has a diameter of 5 centimeters and a height of 12 centimeters? Show work to support your answer.

6. A juice stand sells smoothies in cone-shaped cups that are 8 inches tall. The regular size has a 4-inch diameter; the jumbo size has an 8-inch diameter.

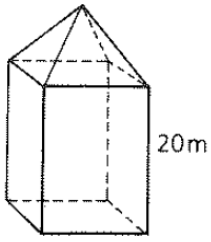


   a. Find the volume of the regular size to the nearest tenth.

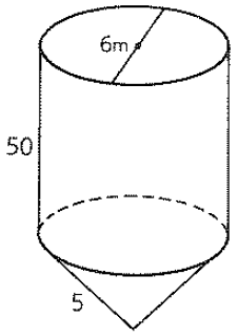
   b. Find the volume of the jumbo size to the nearest tenth.

   c. The regular size costs $ 1.25. What would be a reasonable price for the jumbo size? Explain your reasoning.

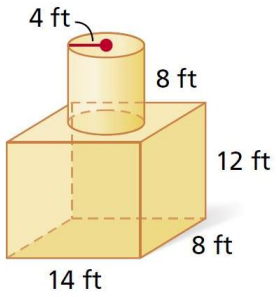
7. A tower has a total height of 24 meters. The height of the wall is 20 meters. The base is a rectangle with an area of 25 square meters. Find the total volume of the tower to the nearest cubic meter.



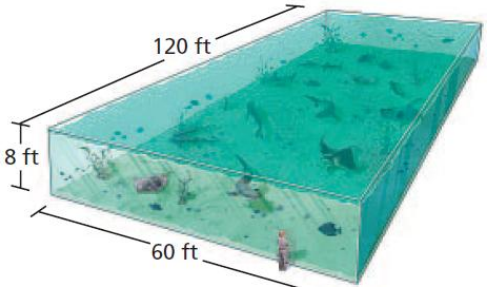
8. A well has a cylindrical wall 50 meters deep and a diameter of 6 meters. The tapered bottom forms a cone with a slant height of 5 meters. Find, to the nearest cubic meter, the volume of water the well could hold.



9. Find the total volume of the solid comprised of a rectangular prism and cylinder. Round your answer to the nearest hundredth, if necessary.



10. The aquarium at the right is a rectangular prism. Find the volume of the water in the aquarium in gallons. The density of water is about 8.33 pounds per gallon. What is the weight of water in pounds? (1 gallon ≈ 0.134 ft^3)



11. Find the missing dimension of each rectangular prism. Give your answers in simplest radical form.

	Length ℓ	Width w	Height h	Diagonal d
a.	6 in.	6 in.	6 in.	
b.	24		60	65
c.	12	18		24
d.		2	3	4

12. Given the diagonal measurements of the three perpendicular sides, find the length of the three-dimensional diagonal. Round your answer to the nearest hundredth, if necessary.