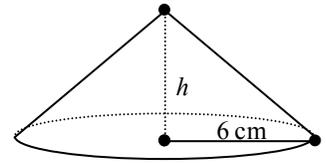




\_\_\_\_\_ 5. Find the missing height of the cone, if the volume is  $150.72\text{cm}^3$ .  
(Round to the nearest tenth.)

- a. 2.7 cm
- b. 12.6 cm
- c. 4.0 cm
- d. 1.3 cm



\_\_\_\_\_ 6. Find the volume of a sphere whose diameter is 4cm to the nearest whole number.

- a.  $34\text{ cm}^3$
- b.  $268\text{ cm}^3$
- c.  $50\text{ cm}^3$
- d.  $201\text{ cm}^3$

\_\_\_\_\_ 7. Which of the following is the volume of a hemisphere with an 11-foot radius?

- a.  $2787.64\text{ ft}^3$
- b.  $4181.46\text{ ft}^3$
- c.  $5575.28\text{ ft}^3$
- d.  $11,150.56\text{ ft}^3$

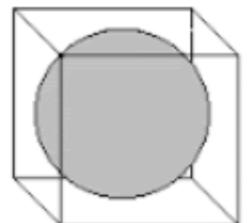
\_\_\_\_\_ 8. Find the diameter of a spherical beach ball with a volume of  $36\pi\text{ in}^3$ .

- a. 6 in
- b. 3 in
- c. 9 in
- d. 27 in

**Short Answer:** Make sure to show all work for each question. USE ESA when possible.

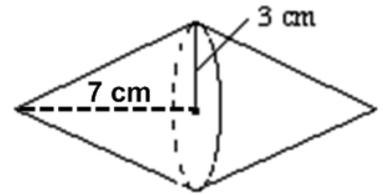
9. Tommy has a ball that is a sphere with a radius of 9 cm. He plans to pack it tightly in a box.

- a) If the box is cubical in shape, what are its dimensions?



- b) What is the volume of box?
- c) What is the volume of the ball? *Round to the nearest tenths place.*
- d) What is the remaining space in the box once the ball has been placed inside?  
*Round your answer to the nearest tenths place.*
10. Anna is designing a cylindrical storage container for lawn chemicals. She first designed a cylinder with radius 12 inches and height 16 inches.
- a) What is the volume of the container? *(Leave in terms of pi.)*
- b) Anna is considering changing the container by doubling either the radius or the height of the container. Which should she double if she wants to have the greatest effect on the volume?

11. Olivia is making some decorations for a graduation party. A diagram of a decoration is shown. She plans to hang 15 of these figures on wires across the room. What will be the total exact volume of the 15 figures? (*Leave in terms of pi.*)



12. Pleasantville has a cylindrical tank for storing water used by the residents. The tank has a diameter of 30 feet and a height of 25 feet.
- a) What is the volume of the tank? Round your answer to the nearest tenths place.
- b) One cubic foot of water is about 7.5 gallons of water. About how many gallons of water are in the tank, to the nearest gallon?