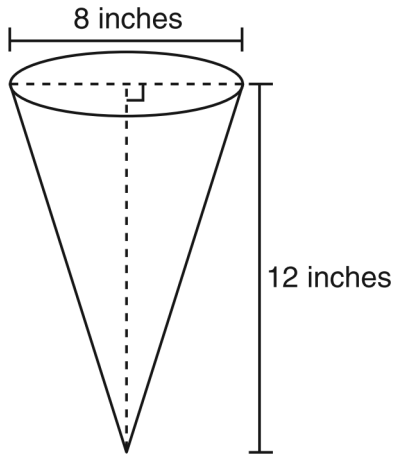
Unit 5: Volumes of Spheres, Cylinders, and Cones

Name: _____ **Date:** _____

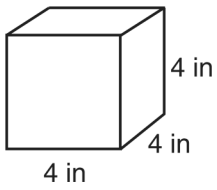
1. In the diagram below, a right circular cone has a diameter of 8 inches and a height of 12 inches.

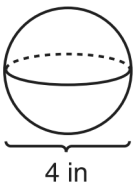


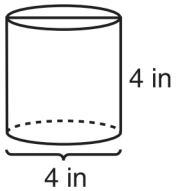
What is the volume of the cone to the *nearest cubic inch*?

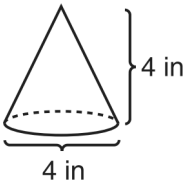
A. 201 B. 481 C. 603 D. 804

2. Which diagram represents the figure with the greatest volume?

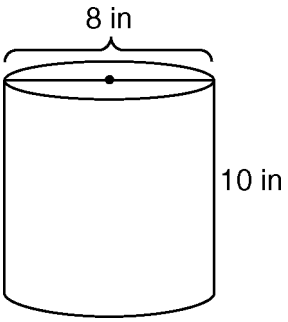
A.


B.


C.


D.


3. A storage container in the shape of a right circular cylinder is shown in the accompanying diagram.

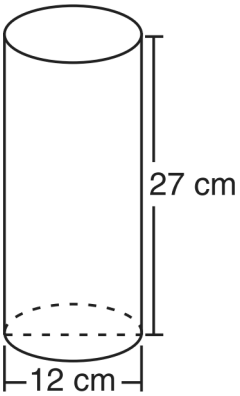


What is the volume of this container, to the nearest hundredth?

A. $56.55\,\text{in}^3$ B. $125.66\,\text{in}^3$

C. $251.33\,\text{in}^3$ D. $502.65\,\text{in}^3$

4. Which expression represents the volume, in cubic centimeters, of the cylinder represented in the diagram below?



A. 162π B. 324π

C. 972π D. $3,888\pi$

5. What is the volume of a cube whose edge has a length of 4?

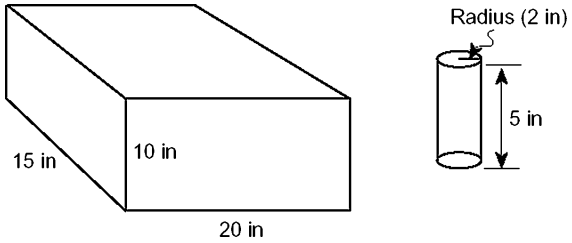
   A. 12 B. 24 C. 64 D. 96

6. If the volume of a cube is 64 cubic centimeters, how many centimeters are in the length of an edge of the cube?

7. A right circular cylinder has a base whose area is 12π. If the height of the cylinder is 6, the volume of the cylinder is

   A. 18π B. 24π C. 36π D. 72π

8. In the accompanying diagram, a rectangular container with the dimensions 10 inches by 15 inches by 20 inches is to be filled with water, using a cylindrical cup whose radius is 2 inches and whose height is 5 inches. What is the maximum number of full cups of water that can be placed into the container without the water overflowing the container?



9. A sphere has a diameter of 18 meters. Find the volume of the sphere, in cubic meters, in terms of π.

10. The diameter of a sphere is 15 inches. What is the volume of the sphere, to the *nearest tenth of a cubic inch*?

    A. 706.9 B. 1767.1

    C. 2827.4 D. 14,137.2

Unit 5: Volumes of Spheres, Cylinders, and Cones 01/22/2013

1.
Answer: A

2.
Answer: A

3.
Answer: D

4.
Answer: C

5.
Answer: C

6.
Answer: 4

7.
Answer: D

8.
Answer: 47

9.
Answer: 972 π

10.
Answer: A