Topic No. 10

#1

Question 1

A water tank is in the shape of a right circular cylinder with a height of 20 feet and a volume of 320π cubic feet. What is the diameter, in feet, of the water tank?

A 16

B 10

C 8

D 4

Question 2

A cone has a radius of 1.2 inches and a height of 2.9 inches. What is the volume, to the nearest tenth of a cubic inch, of the cone?

A. 3.6

B. 4.4

C. 10.6

D. 13.1

Question 3

A cylinder has a diameter of 14 centimeters and a volume of 112π cubic centimeters. What is the height, in centimeters, of the cylinder?

A 16

B 4

C 16/7

D 4/7

Topic No. 10

#1

Question 4

An above-ground swimming pool in the shape of a cylinder has a diameter of 18 feet and a height of 4.5 feet. If the pool is filled with water to 6 inches from the top of the pool, what is the volume, to the nearest cubic foot, of the water in the pool?

A. 226

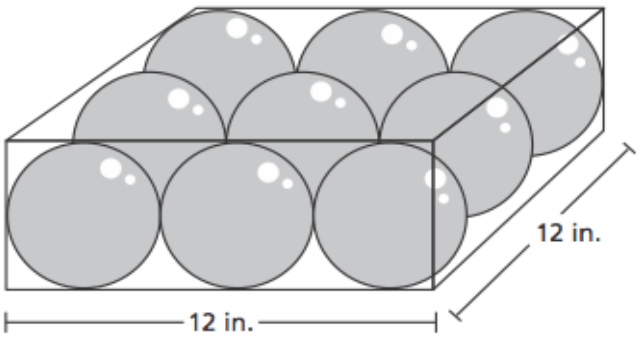
B. 452

C. 1,018

D. 4,072

Question 5

A box contains 9 identical glass spheres that are used to make snow globes. The spheres are tightly packed, as shown below.



What is the total volume, in cubic inches, of all 9 spheres? Round your answer to the nearest tenth of a cubic inch.

Volume of sphere $= \frac{4}{3}\pi r^3$

Show your work.

Topic No. 10

#1

Question 6

What is the percent of the volume of a cone as compared to the volume of a cylinder when both the cone and the cylinder have the same radius and height?

Question 7

What is the percent of the volume of a cylinder as compared to the volume of a box that encloses the cylinder as closely as possible?

Question 8

What is the percent of the volume of ***half of a*** sphere as compared to the volume of a box that encloses the ***half of a*** sphere as closely as possible?