Leonardo is making gift packages. He has a cone shaped package and a cylindrical package. The cone and cylinder have the same radius and height. He wants to use the package with the greatest volume. Which package should Leonardo use?

A) the cone
B) the cylinder
C) The cone and cylinder have equal volumes.
D) There is not enough information to tell.

A cylindrical container has a radius of 5 cm. The container is holding 225π cm^3 of water. What is the height of the container?

A) 15 cm
B) 9 cm
C) 22.5 cm
D) 45 cm

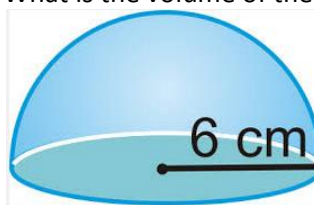
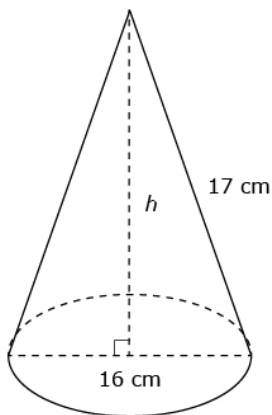The height of this tennis ball can is 26 cm, and its radius is about 4.2 cm.
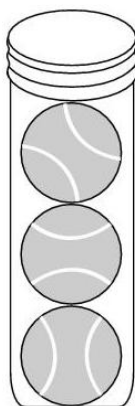
What is the best estimate for the volume of this can?

A) 220π cm^3
B) 110π cm^3
C) 460π cm^3
D) 1400π cm^3

What is the volume of the hemisphere below:

6 cm

A) 12π cm^3
B) 144π cm^3
C) 288π cm^3
D) 864π cm^3

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17 cm

h

16 cm

**Part A:** What is the height, h, of the cone in centimeters? *Show your thinking.*

Part B: What is the volume of the cone in terms of pi? *Show your thinking.*

Part C: Jacob designs a party hat with the same diameter as the cone, but with a height 5 centimeters taller. How does the volume of the cone compare to the volume of the party hat Jacob designs? *Show your thinking.*

Nixxi will be sitting on top of the dunk tank at her school's carnival fund-raiser. She wants to find the volume of the tank so she can figure out how much water she will need to fill it. The tank is 4.5 feet deep and has a radius of 5 feet.

4.5 ft
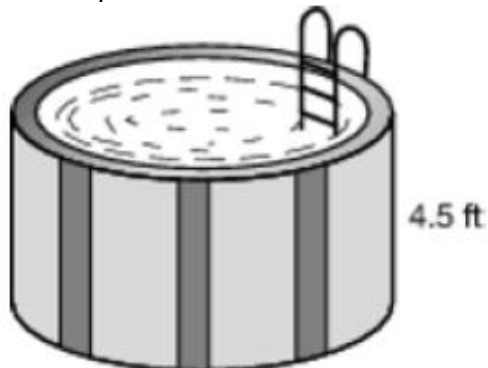
What is the approximate volume of the tank? Use 3.14 for pi.

A. 62.8 ft^3 B. 125.6 ft^3 C. 353 ft^3 D. 1256 ft^3
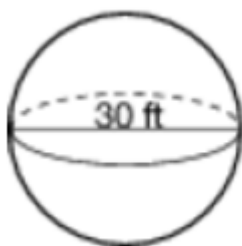

The cone below has a heigh of 5 inches and a radius of 3 inches.

3 in.

5 in.
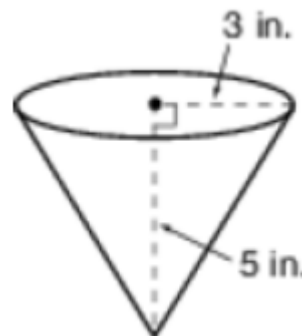
What is the approximate volume of the cone? Use 3.14 for pi.

A. 15.7 in^3 B. 47.1 in^3
C. 78.5 in^3 D. 141.3 in^3

The sphere below has a diameter of 30 feet.

30 ft

Approximately, which is the volume of the sphere? Use 3.14 for pi.

A. 10,597 ft³   B. 13,040 ft³
C. 14,130 ft³   D. 87,780 ft³

What is the exact volume of a half cone with a radius of 12 feet and a height of 3 feet?

A. 432π cubic feet

B. 72π cubic feet

C. 144π cubic feet

D. 24π cubic feet

What is the approximate volume of this cylinder? Use 3.14 for pi.

4 m

10 m
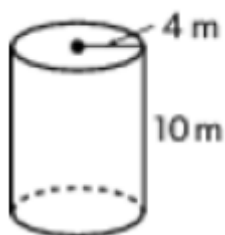
A. 2,009.6 cubic meters
B. 502.4 cubic meters
C. 251.2 cubic meters
D. 167.5 cubic meters

What is the approximate volume of a hemisphere (a half-sphere) with a diameter of 20 feet?

A. 2,093.3 cubic feet

B. 4,186.7 cubic feet

C. 16,746.7 cubic feet

D. 33,493.3 cubic feet