9.4 Volume of Cones and Spheres

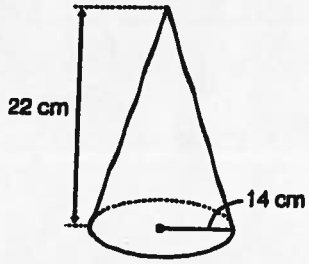
Date: _____

Section 9.4

Where necessary, round your answers to one decimal place. Use $\pi = 3.14$.

1. Find the volume of each cone. Convert measures to the same units where necessary.

a)



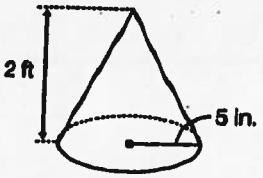
$V = \frac{1}{3}\pi r^2 h$

$= \frac{1}{3}\pi(\_\_\_\_)^2(\_\_\_\_)$

$\doteq$ _____

The volume of the cone is approximately _____ cm^3.

b)



Convert units to inches. Since there are 12 in. in 1 ft, 2 ft is ____ in.

$V =$

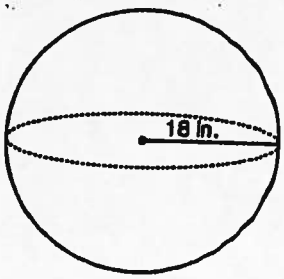
$= \_\_\_\_(\_\_\_\_)^2(\_\_\_\_)$

$\doteq$ _____

The volume of the cone is approximately _____ in^3.

2. Find the volume of each sphere.

a)



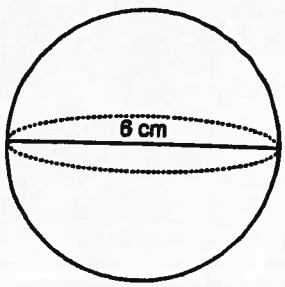
$V = \frac{4}{3}\pi r^3$

$= \frac{4}{3}\pi(\_\_\_\_)^3$

$\doteq$ _____

The volume of the sphere is approximately _____ $in.^3$

b)



$V =$

$= \_\_\_\_(\_\_\_\_)^3$

$\doteq$ _____

The volume of the sphere is approximately _____ cm^3.

Textbook - page 396 # 6

Date: _____

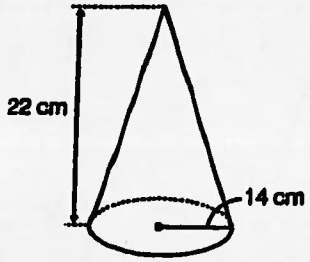
9.4 Volume of Cones and Spheres

Section 9.4

Where necessary, round your answers to one decimal place. Use $\pi = 3.14$.

1. Find the volume of each cone. Convert measures to the same units where necessary.

a)



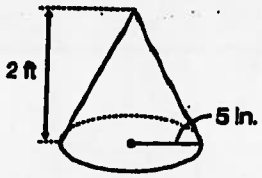
$V = \frac{1}{3}\pi r^2 h$

$= \frac{1}{3}\pi(14)^2(22)$

$\doteq 4513.2$

The volume of the cone is approximately 4513.2 cm³.

b)



Convert units to inches. Since there are 12 in. in 1 ft, 2 ft is 24 in.

$V = \frac{\pi r^2 h}{3}$

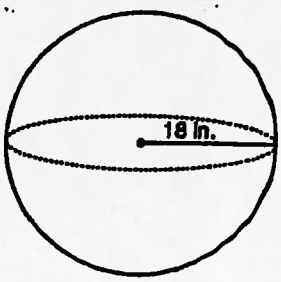
$= \frac{1}{3}(5)^2(24)$

$\doteq 628$

The volume of the cone is approximately 628 in³.

2. Find the volume of each sphere.

a)



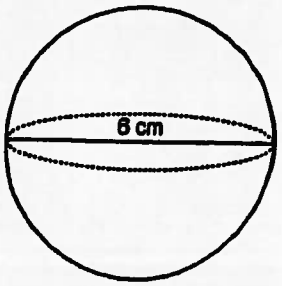
$V = \frac{4}{3}\pi r^3$

$= \frac{4}{3}\pi(18)^3$

$\doteq 24416.6$

The volume of the sphere is approximately 24416.6 in.³

b)



$V = \frac{4\pi r^3}{3}$

$d = 6$

$r = 3$

$= \frac{4\pi}{3}(3)^3$

$\doteq 113$

The volume of the sphere is approximately 113 cm³.

Textbook