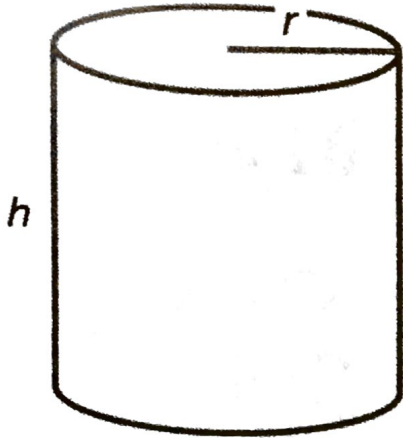
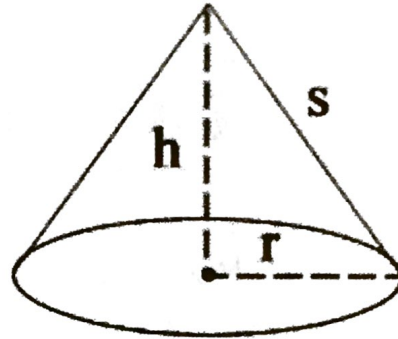


## Review



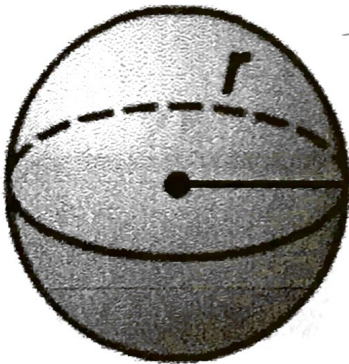
name: cylinder

$$V = \pi \cdot r^2 \cdot h$$



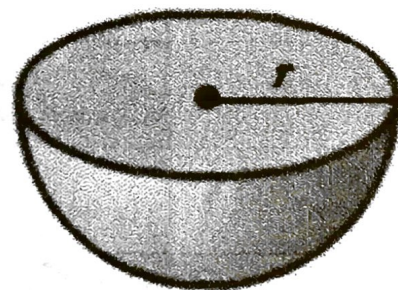
name: cone

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



name: sphere

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



name: Hemisphere

$$V = \frac{4 \cdot \pi \cdot r^3}{6} \text{ OR } \frac{2 \cdot \pi \cdot r^3}{3}$$

Review: Solve for x, showing work

$$\sqrt{x^2} = \sqrt{16}$$

$$x = \sqrt{16}$$

$$x = 4$$

Because...  
 $4^2 = 16 \checkmark$

$$\sqrt[3]{x^3} = \sqrt[3]{64}$$

$$x = \sqrt[3]{64}$$

$$x = 4$$

Because  $4^3 = 64 \checkmark$

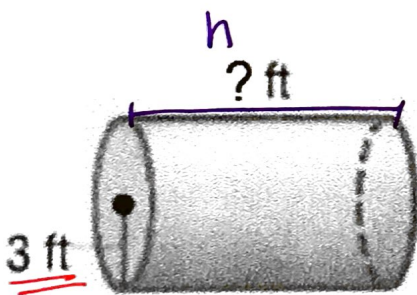
Find the missing dimension. Approximate your answer to the nearest tenth.

① Start with formula

② Plug in what you know

Ex. 2 ③ Solve for what you need!

Ex. 1  
Volume = 200 ft<sup>3</sup>



$$V = \pi \cdot r^2 \cdot h$$

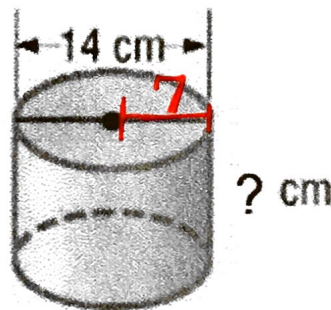
$$200 = \pi \cdot 3^2 \cdot h$$

$$\frac{200}{\pi \cdot 9} = \frac{\pi \cdot 9 \cdot h}{\pi \cdot 9}$$

$$7.1 = h$$

$$h = 7.1 \text{ feet}$$

Ex. 2  
Volume = 2660 cm<sup>3</sup>



$$V = \pi \cdot r^2 \cdot h$$

$$2660 = \pi \cdot 7^2 \cdot h$$

$$\frac{2660}{\pi \cdot 49} = \frac{\pi \cdot 49 \cdot h}{\pi \cdot 49}$$

$$17.3 = h$$

$$h = 17.3 \text{ cm}$$

Notes 9-3

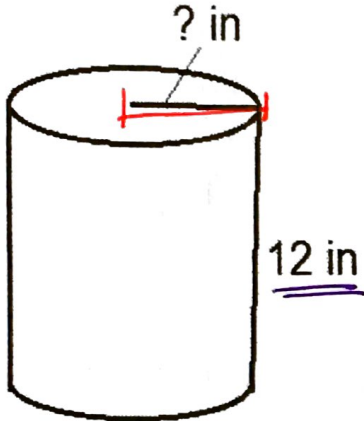
Int 2

Calculate the Radius and Height

Unit 9

Ex. 3

Volume = 950 in<sup>3</sup>



$$V = \pi \cdot r^2 \cdot h$$

$$950 = \pi \cdot r^2 \cdot 12$$

$$\frac{950}{\pi \cdot 12} = \frac{\pi \cdot r^2 \cdot 12}{\pi \cdot 12}$$

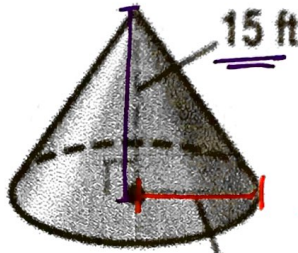
$$\sqrt{25.199...} = \sqrt{r^2}$$

$$5 = r$$

**r = 5.0 in**

Ex. 4

Volume = 1500 ft<sup>3</sup>



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

$$1500 = \frac{\pi \cdot r^2 \cdot 15}{3}$$

$$4500 = \pi \cdot r^2 \cdot 15$$

$$\frac{4500}{\pi \cdot 15} = \frac{\pi \cdot r^2 \cdot 15}{\pi \cdot 15}$$

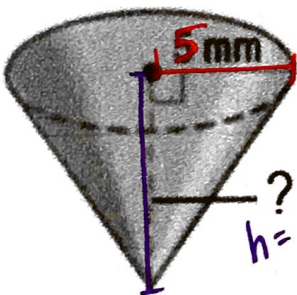
$$\sqrt{95.49...} = \sqrt{r^2}$$

$$9.77... = r$$

**r = 9.8 feet**

Ex. 5

Volume = 420 mm<sup>3</sup>



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

$$420 = \frac{\pi \cdot 5^2 \cdot h}{3}$$

$$1260 = \pi \cdot 5^2 \cdot h$$

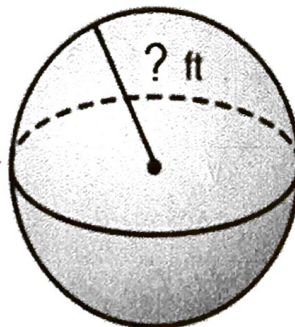
$$\frac{1260}{\pi \cdot 25} = \frac{\pi \cdot 25 \cdot h}{\pi \cdot 25}$$

$$16.0 = h$$

**h = 16.0 mm**

Ex. 6

Volume = 3050 ft<sup>3</sup>



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

$$3050 = \frac{4 \cdot \pi \cdot r^3}{3}$$

$$\frac{9150}{4 \cdot \pi} = \frac{4 \cdot \pi \cdot r^3}{4 \cdot \pi}$$

$$\sqrt[3]{728.133...} = \sqrt[3]{r^3}$$

$$8.99 = r$$

**r = 9.0 feet**



Notes 9-3

Int 2

Calculate the Radius and Height

Unit 9

Ex. 7

Volume = 5300  $yd^3$



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

$$3 \cdot 5300 = \frac{4 \cdot \pi \cdot r^3}{3}$$

$$15900 = \frac{4 \pi r^3}{4 \pi}$$

$$1265.28 = r^3$$

$r = 10.8$  yds

Ex. 9

The volume of a cone is 560  $m^3$ .

If the radius is 4  $m$ , find the height.

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

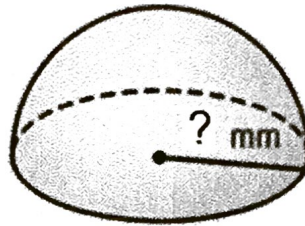
$$3 \cdot 560 = \frac{\pi \cdot 4^2 \cdot h}{3}$$

$$\frac{1680}{\pi \cdot 16} = \frac{\pi \cdot 16 \cdot h}{\pi \cdot 16}$$

$33.4 = h$   $h = 33.4$  meters

Ex. 8

Volume = 1350  $mm^3$



$$V = \frac{4 \cdot \pi \cdot r^3}{6}$$

$$6 \cdot 1350 = \frac{4 \cdot \pi \cdot r^3}{6}$$

$$\frac{8100}{4 \pi} = \frac{4 \pi r^3}{4 \pi}$$

$$3 \sqrt{644.5775 \dots} = \sqrt{r^3}$$

$r = 8.6$  mm

Ex. 10

The volume of a sphere is 4200  $in^3$ .

Find the radius.

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

$$3 \cdot 4200 = \frac{4 \cdot \pi \cdot r^3}{3}$$

$$\frac{12600}{4 \pi} = \frac{4 \pi r^3}{4 \pi}$$

$1002.676 \dots = r^3$   $r = 10.0$  inches