1. Which of the following equations has infinitely many solutions?
   a. $b + 2 = b + 2$
   b. $b = -b + 2$
   c. $b + 2 = b - 2$
   d. $b + b = 2$

2. Which of the following equations has only one solution?
   a. $c + 2 = c + 2$
   b. $c = -c + 2$
   c. $c + 2 = c - 2$
   d. $c - c = 2$

3. Solve $-2y + 1 = y - 5$.
   a. $y = -6$
   b. $y = -2$
   c. $y = 2$
   d. $y = 6$

<u>*Volume*</u>

The amount of 3-dimensional space an object occupies.

Capacity.

What is "BIG B"?

$$B = \pi r^2$$

Volume Organizer
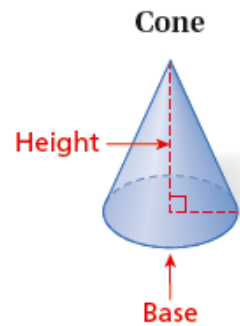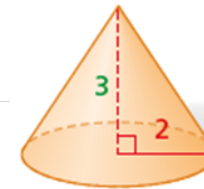
Figure	Image	Formula	Example

Figure	Image	Formula	Example
CONE	Cone Height → Base	$V = \frac{1}{3}Bh$ B = πr²	$B = \pi(2^2)$ $= 4\pi \text{ units}^2$ $V = \frac{1}{3}(4\pi)(3)$ $= 4\pi$ $\approx 12.6 \text{ units}^3$
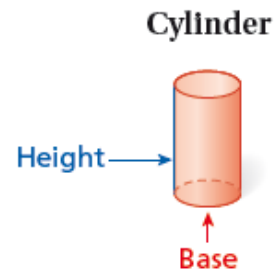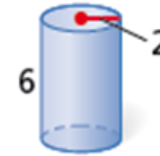
CYLINDER	**Cylinder** Height → ↑ Base	$V = Bh$ $B = \pi r^2$	6, 2 $B = \pi\,(2^2)$ $= 4\pi\,\text{units}^2$ $V = (4\pi)(6) = 24\pi$ $\approx 75.4\,\text{units}^3$
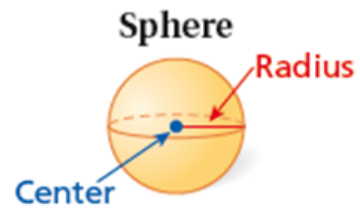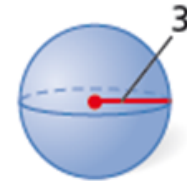
SPHERE	Sphere Radius Center	$V = \frac{4}{3}\pi r^3$	3 $V = \frac{4}{3}\pi(3^3)$ $= \frac{108}{3}\pi$ $= 36\pi$ $\approx 113.1 \text{ units}^3$

What you will see on the CRCT Formula Sheet this year

Volume

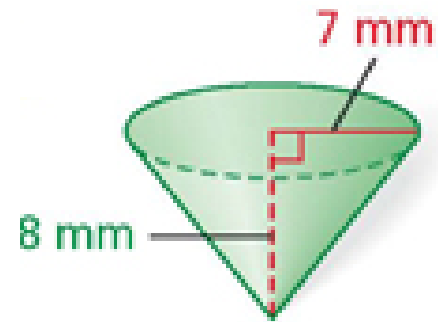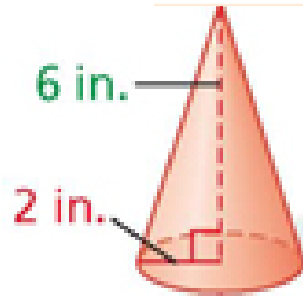Rectangular Prism Volume = (area of base) × (height) or $V = lwh$

Cylinder Volume = (area of base) × (height)

Sphere $V = \frac{4}{3}\pi r^3$
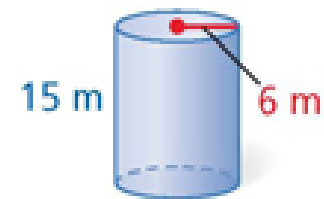
Cone $V = \frac{1}{3}Bh$

Cone

$$V = \frac{1}{3} Bh$$

6 in.

2 in.

7 mm

8 mm
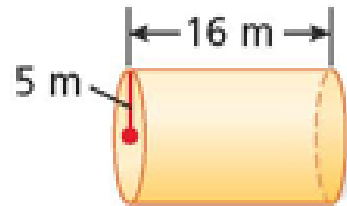
A cone-shaped building is commonly used to store sand. Wh
the volume of a cone-shaped building with diameter 50 m a
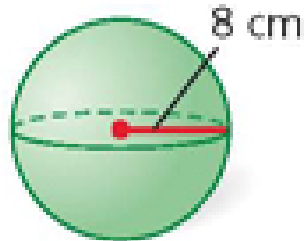20 m to the nearest hundredth?

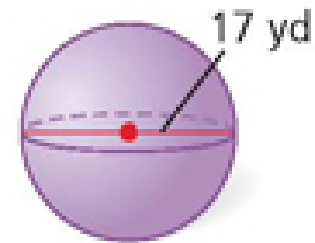Cylinder   Volume = (area of base) × (height)

5 m |← 16 m →|

15 m   6 m

Grain is stored in cylindrical
structures called *silos*.
Estimate the volume of a silo
with diameter 11.1 feet and
height 20 feet.

25 ft   20 ft

10 ft

18 ft   15 ft

Sphere

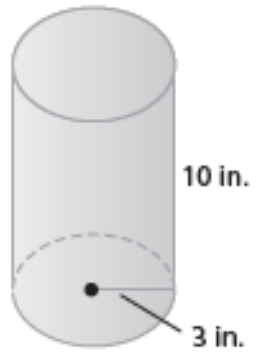$$V = \frac{4}{3}\pi r^3$$

8 cm

17 yd

Fossilized embryos of dinosaurs called titanosaurid sauropods have recently been found in spherical eggs in Patagonia. The eggs were 15 cm in diameter, and the adult dinosaurs were more than 12 m in length. Find the volume of an egg.
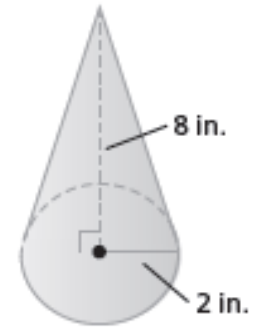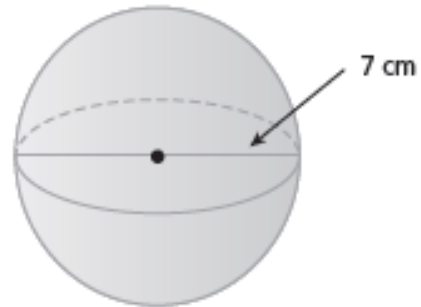
Titanosaurid eggs

1.

10 in.

3 in.

2.

8 in.

2 in.

3.

7 cm

Volume

ar Prism Volume $=$ (area of base) $\times$ (height) or $V = lwh$

Volume $=$ (area of base) $\times$ (height)

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

$V = \frac{1}{3}Bh$