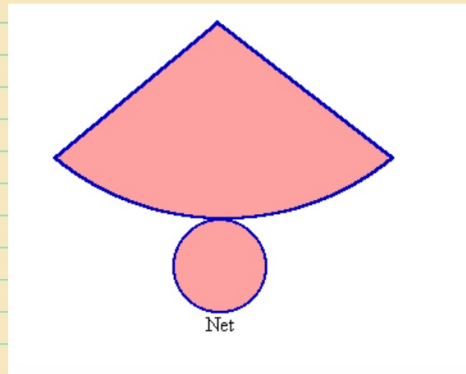
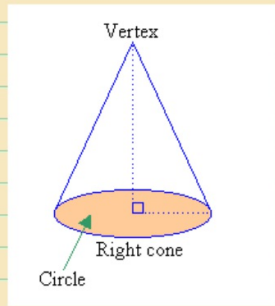


**Skill Check:**  
**5 Min**

The surface area of a cube is 6 square centimeters. What is its volume, in cubic centimeters?

**Write using EEE compare and  
contrast  
a cone and a cylinder.**

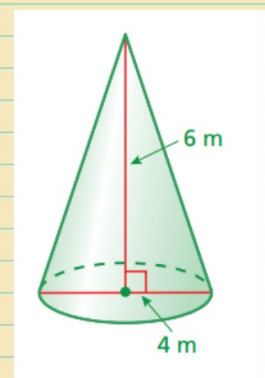


## Example 1:

### Finding the volume of a cone:

**Find the volume of the cone. Round your answer to the nearest tenth.**

The diameter is 4 meters. So, the radius is 2 meters.



**Check:**

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

Write formula for volume.

$$= \frac{1}{3}\pi(2)^2(6)$$

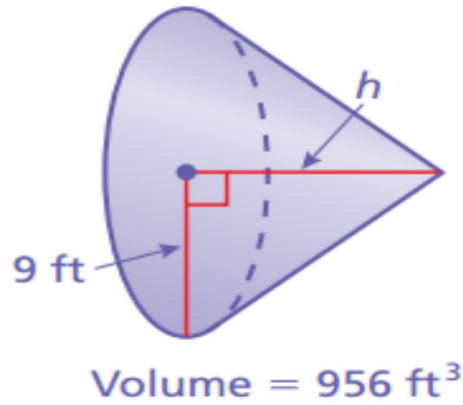
Substitute.

$$= 8\pi \approx 25.1$$

Use a calculator.

**Interpret:**

**Example 2:  
Find the height**



**Check:**

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

Write formula for volume.

$$956 = \frac{1}{3}\pi(9)^2(h)$$

Substitute.

$$956 = 27\pi h$$

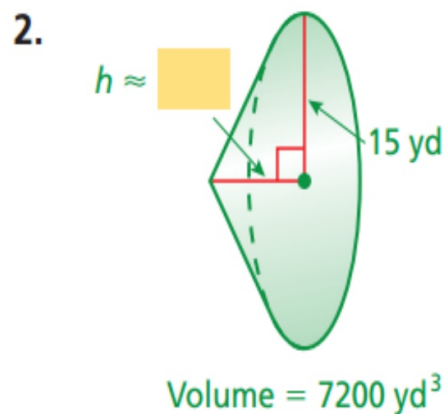
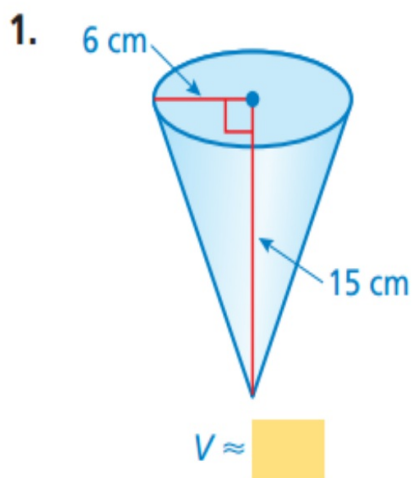
Simplify.

$$11.3 \approx h$$

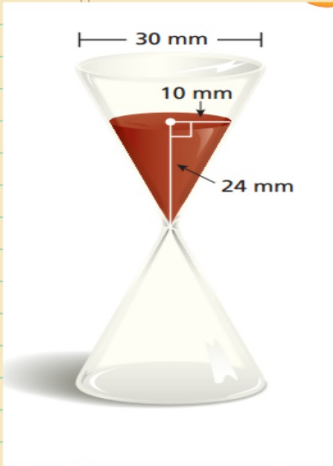
Divide each side by  $27\pi$ .

**Practice:**

**Find the volume  $V$  or height  $h$  of the cone. Round your answer to the nearest tenth.**



### Example 3: Apply



You must answer a trivia question before the sand in the timer falls to the bottom. The sand falls at a rate of 50 cubic millimeters per second. How much time do you have to answer the question?

Use the formula for the volume of a cone to find the volume of the

### Check:

Use the formula for the volume of a cone to find the volume of the sand in the timer.

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

Write formula for volume.

$$= \frac{1}{3}\pi(10)^2(24)$$

Substitute.

$$= 800\pi \approx 2513$$

Use a calculator.

### Interpret:

The volume of the sand is about 2513 cubic millimeters. To find the amount of time you have to answer the question, multiply the volume by the rate at which the sand falls.

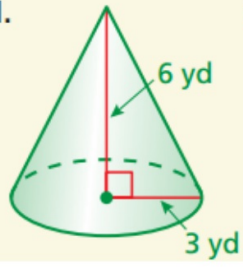
$$2513 \text{ mm}^3 \times \frac{1 \text{ sec}}{50 \text{ mm}^3} = 50.26 \text{ sec}$$

❖ So, you have about 50 seconds to answer the question.

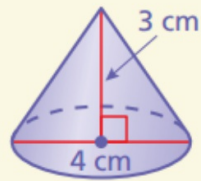
## Mini-Assessment

Find the volume of the cone. Round your answer to the nearest tenth.

1.



2.



3. The volume of the ice cream cone is 4.71 cubic inches. Find the height of the cone.

↳ 2 in. ◁

