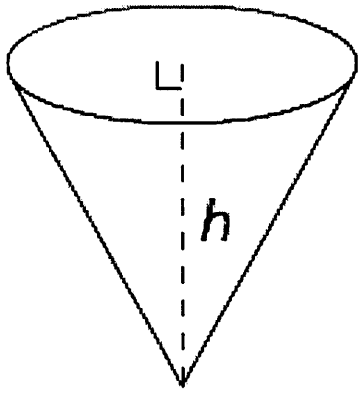
I can calculate the Volume of Cones and determine the dimensions given the volume

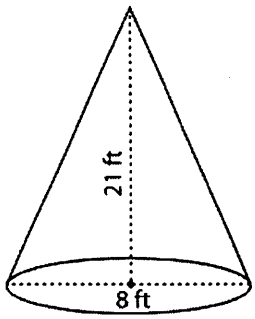
Volume of Cones

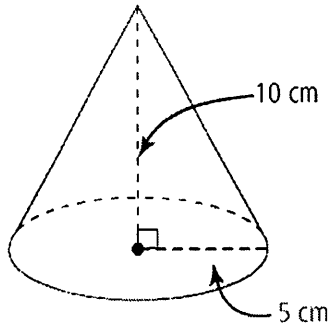


Volume of a Cone

$$V = B \cdot H$$

Find the Volume of the Cone *in terms of* π	Find the Volume of the Cone *to the nearest tenth.*

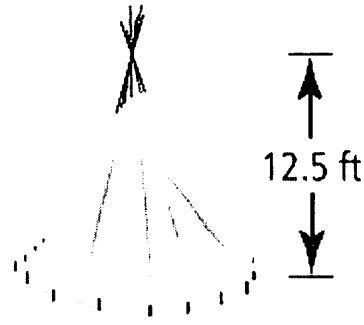




Given Volume, Find Dimensions

1. A cone has a volume of 33π cm^3 and a height of 11 cm. Find the diameter of the cone.

2. The volume of the tepee is 471 ft^3. To the nearest foot, what is the radius? Use 3.14 for π.



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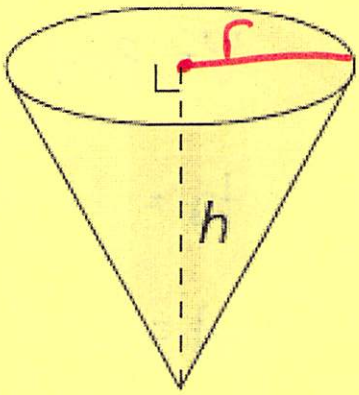


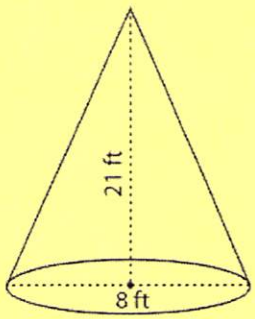
Volume of a Cone

$$V = \frac{1}{3} B \cdot H$$

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

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

Find the Volume of the Cone *in terms of π*	Find the Volume of the Cone *to the nearest tenth.*



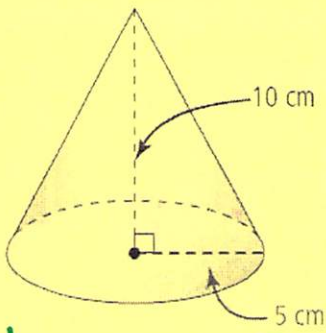
$r = 4\text{ ft}$

$h = 21\text{ ft}$

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

$V = \frac{1}{3} \cdot \pi \cdot 4^2 \cdot 21$

$V = 112\pi \text{ ft}^3$



$r =$

$h =$

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

$V = \frac{1}{3} \cdot \pi \cdot 5^2 \cdot 10$

$V = 261.8 \text{ cm}^3$

Given Volume, Find Dimensions

1. A cone has a volume of 33π cm^3 and a height of 11 cm. Find the diameter of the cone.

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

$V = 33\pi \text{ cm}^3$

$h = 11 \text{ cm}$

$d = .$

$r = ?$

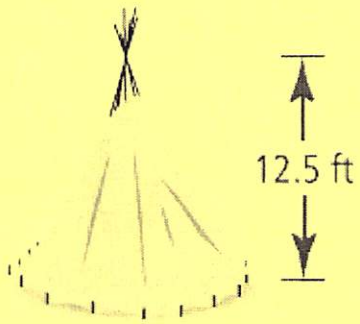
$3 \cdot 33\pi = 3 \cdot \frac{1}{3} \cdot \pi \cdot r^2 \cdot 11$

$\frac{99}{11} = \frac{r^2 \cdot 11}{11}$

$9 = r^2$

$r = 3 \text{ cm}$

2. The volume of the tepee is 471 ft^3. To the nearest foot, what is the radius? Use 3.14 for π.



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

$V = 471 \text{ ft}^3$

$r = ?$

$h = 12.5 \text{ ft}$

$471 = \frac{1}{3} \cdot \pi \cdot 12.5 \text{ ft} \cdot r^2$

$471 = 13.089 \cdot r^2$

$\frac{471}{13.089} = \frac{13.089}{13.089} \cdot r^2$

$\sqrt{35.984} = \sqrt{r^2}$

$6 \text{ ft} = r$