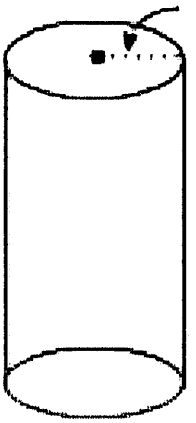
I can calculate Volume of Cylinders and determine the dimensions given the volume

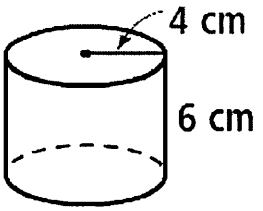
Volume of Cylinders

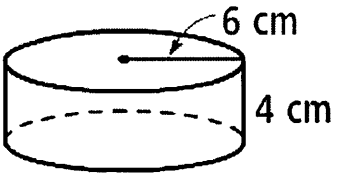


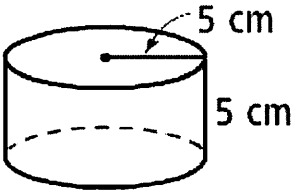
Volume of a Cylinder

$$V = B \cdot H$$

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







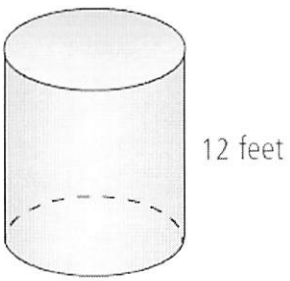
On Your Own:

A cylinder has a diameter of 14 inches and a height of 3.8 inches. What is the volume of the cylinder *to the nearest tenth*

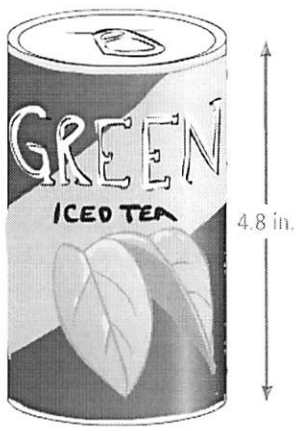
Given Volume, Find Dimensions

What is the height of a cylinder with a diameter of 12 cm and a Volume of 72π?

What is the radius of a cylinder that has a volume of 192π cubic feet and a height of 12 feet?



A company is designing a can for a new green iced tea. The volume of the can will be 90 cubic inches. To the nearest tenth of an inch, what is the radius of the can?



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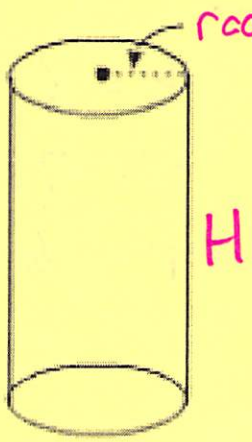
Volume of Cylinders

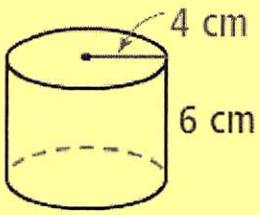


Volume of a Cylinder

$$V = B \cdot H$$

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

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

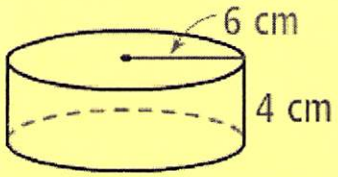


F: $V = \pi \cdot r^2 \cdot h$

S: $V = \pi \cdot 4^2 \cdot 6$

S: $V = 96\pi \text{ cm}^3$

$V = 301.6 \text{ cm}^3$

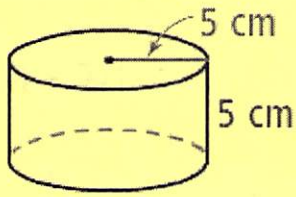


F: $V = \pi \cdot r^2 \cdot h$

S: $V = \pi \cdot 6^2 \cdot 4$

S: $V = 144\pi \text{ cm}^3$

$V = 452.4 \text{ cm}^3$



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

S: $V = \pi \cdot 5^2 \cdot 5$

S: $V = 125\pi \text{ cm}^3$

$V = 392.7 \text{ cm}^3$

On Your Own:

A cylinder has a diameter of 14 inches and a height of 3.8 inches. What is the volume of the cylinder *to the nearest tenth*

$d = 14$ in

$r = 7$ in

$h = 3.8$ in

$V = ?$

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

$V = \pi \cdot 7^2 \cdot 3.8$

$V = 186.2\pi$

$V = 585.0 \text{ in}^3$

Given Volume, Find Dimensions

What is the height of a cylinder with a diameter of 12 cm and a Volume of 72π?

radius = 6 cm

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

S: $72\pi = \pi \cdot 6^2 \cdot h$

$\frac{72}{36} = \frac{36 \cdot h}{36}$

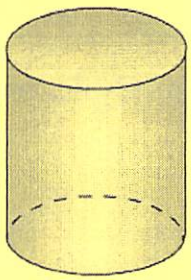
$2 \text{ cm} = h$

$h = ?$

$V = 72\pi \text{ cm}^3$

$r = 6 \text{ cm}$

What is the radius of a cylinder that has a volume of 192π cubic feet and a height of 12 feet?



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

S: $\frac{192\pi}{12} = \frac{\pi \cdot r^2 \cdot 12}{12}$

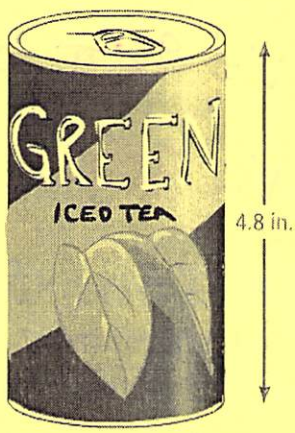
$16 = r^2$

$r = ?$

$V = 192\pi \text{ ft}^3$

$h = 12 \text{ ft}$

A company is designing a can for a new green iced tea. The volume of the can will be 90 cubic inches. To the nearest tenth of an inch, what is the radius of the can?



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

$\frac{90}{\pi} = \frac{\pi \cdot r^2 \cdot 4.8}{\pi}$

$\frac{28.64}{4.8} = \frac{r^2 \cdot 4.8}{4.8}$

$5.968 = r^2$

$V = 90 \text{ in}^3$

$r = ?$

$h = 4.8 \text{ in}$

$r = 2.4 \text{ in}$