Given the formulas for the volume of a cylinder, cone and sphere, where r is _____ and h is

_____.

_____   _____   _____

V = _____   V = _____   V = _____

Examples:

Find the volume of the figure shown.

Since this is a _____, the formula for volume is

_____

The radius is _____ and the height is _____, so

r = ____ and h = _____.

V = 1/3 π (____)^2(_____) = 4(_____)π = ____π = _____

Since this is a _____, the formula for volume is

_____

The radius is _____ and the height is _____, so

r = ____ and h = _____.

V = π (____)^2(____) = ____(7)π = _____π = _____

6 ft

Since this is a _____, the formula for volume is

_____

The radius is _____ , so $r =$ ____ .

$V = \frac{4}{3}\pi \,(\underline{\hphantom{xx}})^3 = \frac{4}{3}(\underline{\hphantom{xx}})\pi = \underline{\hphantom{xxx}}\pi = \underline{\hphantom{xxxxx}}$
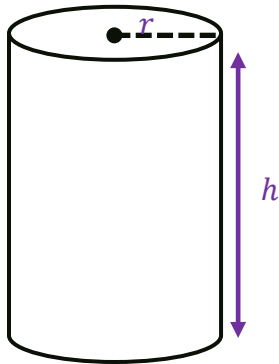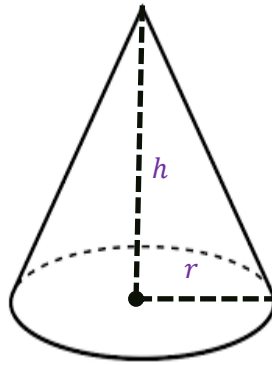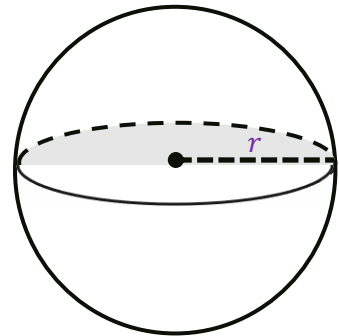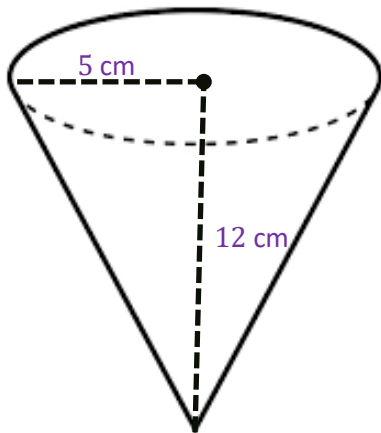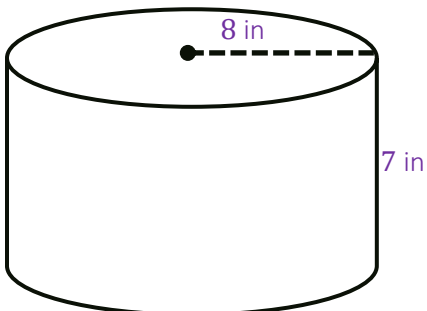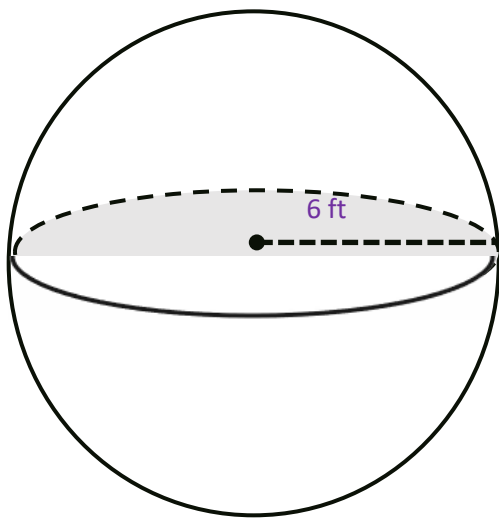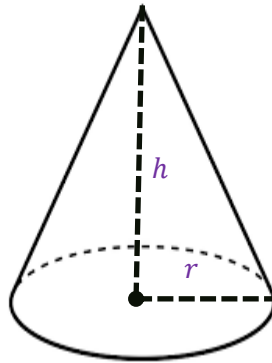
Ch 4 - 5 Volume of a Cone, Cylinder, Sphere Teacher Notes

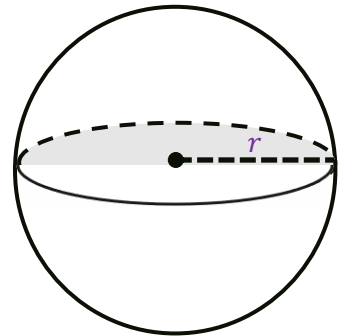Given the formulas for the volume of a cylinder, cone and sphere, where r is __radius__ and h is ___height___.
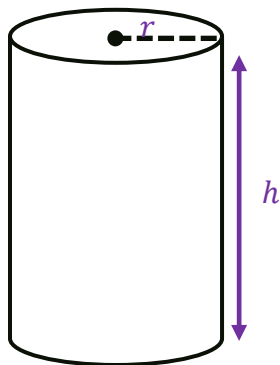
cylinder

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

cone

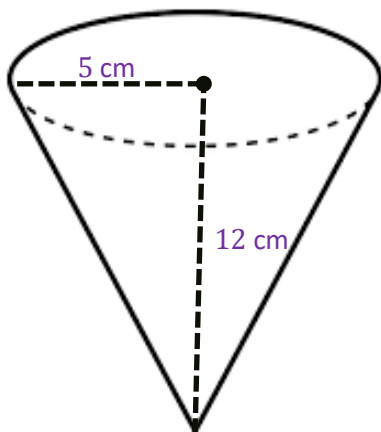$V =$ ___$\frac{1}{3}\pi r^2 h$___

sphere

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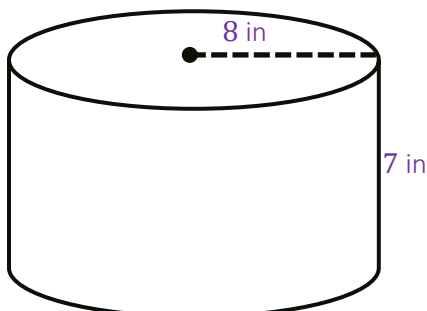
Examples:

Find the volume of the figure shown.

5 cm

12 cm

Since this is a __cone__, the formula for volume is
___$V = \frac{1}{3}\pi r^2 h$___

The radius is __5 cm__ and the height is __12 cm__, so

$r =$ __5__ and $h =$ __12__.

$V = 1/3\ \pi\ ($__5__$)^2($__12__$) = 4($__25__$)\pi =$__100__$\pi =$ ___$314.16\ cm^3$___

8 in

7 in

Since this is a __cylinder__, the formula for volume is
___$V = \pi r^2 h$___

The radius is __8 in__ and the height is __7 in__, so

$r =$ __8__ and $h =$ __7__.

$V = \pi\ ($__8__$)^2($__7__$) =$ __64__$(7)\pi =$ __448__$\pi =$ ___$1407.4\ in^3$___

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6 ft
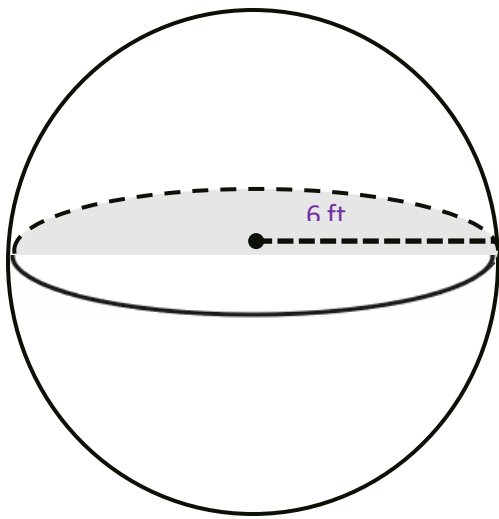
Since this is a **sphere**, the formula for volume is

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

The radius is **6 ft** , so $r =$ **6** .

$V = \frac{4}{3}\pi$ (**6**)$^3 = \frac{4}{3}$(**216**)$\pi =$ **288** $\pi =$ **904.78 ft^3**