

Key Topic

The FRAME

Volume

is about...

the mass (space) inside of 3-D shape

Main Idea

$V = \pi r^2 h$

Cylinder

Details

$\pi = 3.14$

- Always use radius ⊕
- If given diameter ⊕
- divide in half to find radius
-  5.5 $V = \pi r^2 h$
 $V = (3.14)(2^2)(5.5)$
 $V = (3.14)(4)(5.5)$
 $V = 69.08 \text{ units}^3$

Main Idea

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

Cone

Details

$\pi = 3.14$

- Always use radius ⊕
- If given diameter ⊕
- divide in half to find radius
-  $d = 12 \rightarrow r = 6$
 $h = 28$ $V = \frac{\pi r^2 h}{3}$
 $V = \frac{3.14(6^2)(28)}{3}$
 $V = \frac{3.14(36)(28)}{3}$
 $V = 1055.04 \text{ units}^3$

Main Idea

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

Sphere

Details

$\pi = 3.14$

-  $r = 6$ $V = \frac{4\pi r^3}{3}$
 $V = \frac{4(3.14)(6^3)}{3}$
 $V = \frac{4(3.14)(216)}{3}$
 $V = 904.32 \text{ units}^3$

So What?

to be able to analyze shapes to find their volume