

Pizza →



depth =  $a$

radius =  $r$

Volume =  $\pi \cdot r \cdot r \cdot a$

What is it?....

**Volume** is the measure of the amount of space inside of a solid figure, like a cube, ball, cylinder or pyramid. It's units are always "cubic"

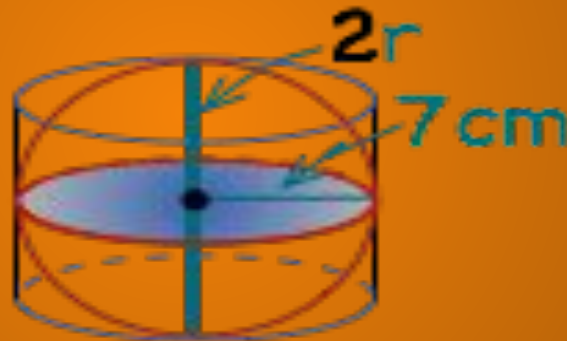


What and where is everything...

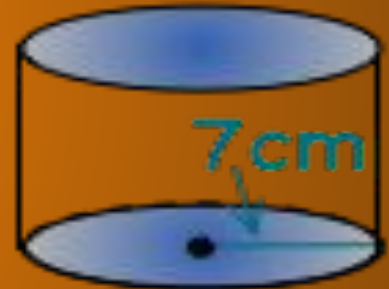


## Formula for Volume of a Sphere

Sphere



Cylinder



$$V_{\text{Sphere}} = \frac{2}{3} V_{\text{Cylinder}} \rightarrow$$

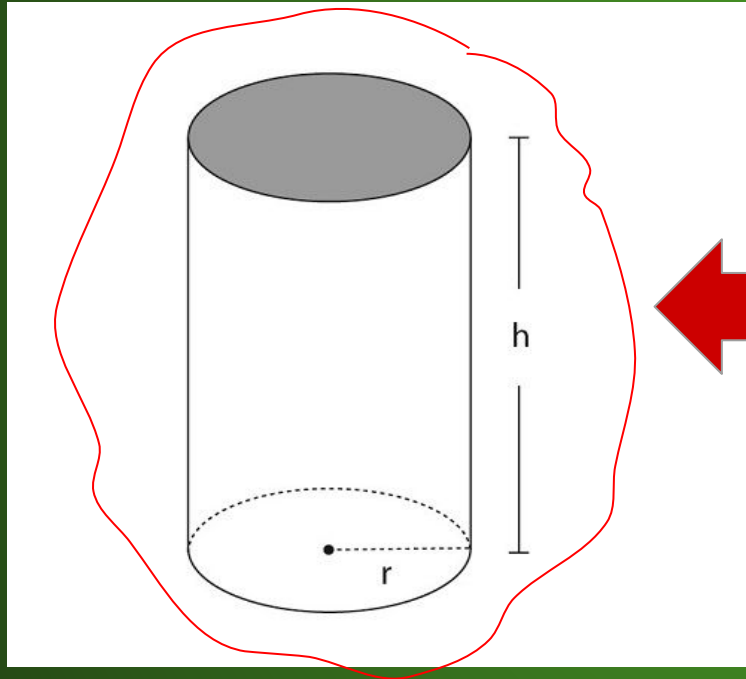
$$V_{\text{Sphere}} = \frac{4}{3} \pi r^3$$

$$V_{\text{Cylinder}} = \pi r^2 h$$





# The different types of volumes and their formula



THIS IS A CYLINDER . ITS APART OF VOLUME TOO.....ITS FORMULA IS SHOWN DOWN BELOW

## VOLUME OF A CYLINDER:

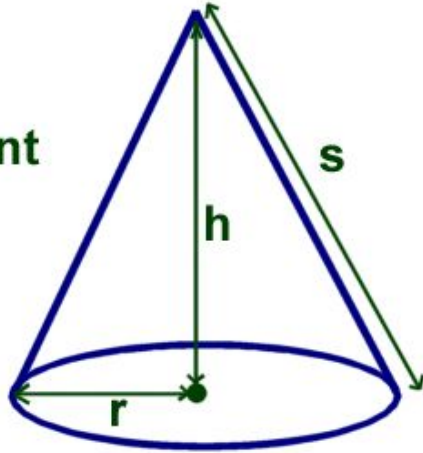
$$V = \pi r^2 h$$

where:

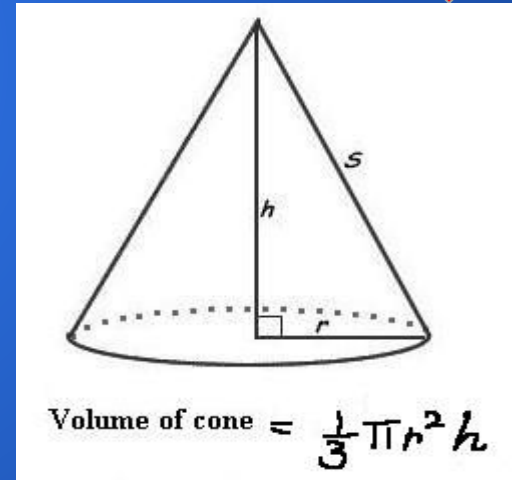
- $V$  = volume of the cylinder
- $r$  = radius of the base of the cylinder
- $h$  = height of the cylinder

# Volume and formula of cone

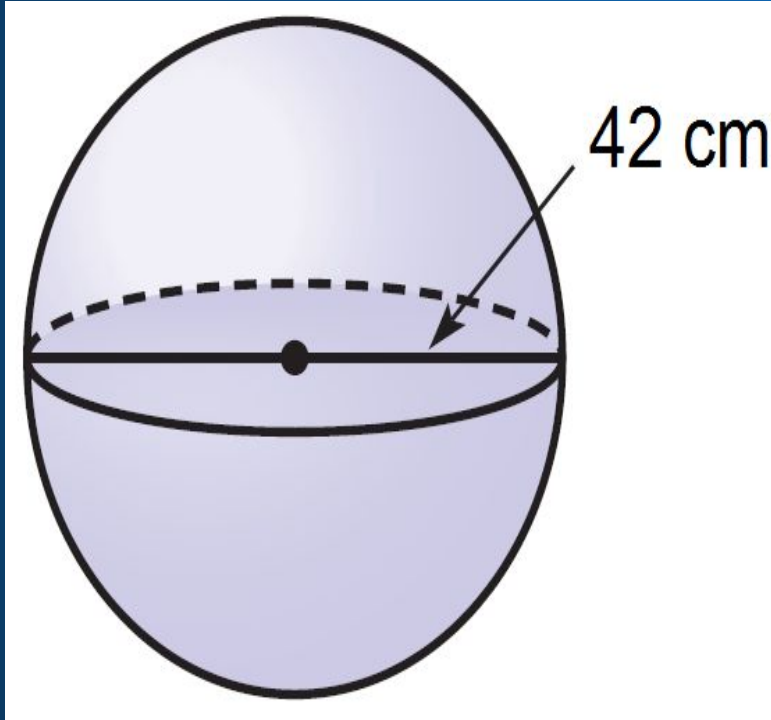
**r = radius**  
**h = height**  
**s = length of slant**



THIS IS A CONE IT'S ALSO APART OF  
VOLUME IT FORMULA IS SHOWN BELOW



# Volume of sphere and formula



THIS IS A SPHERE ITS APART OF VOLUME TOO...THE FORMULA IS SHOWN DOWN BELOW



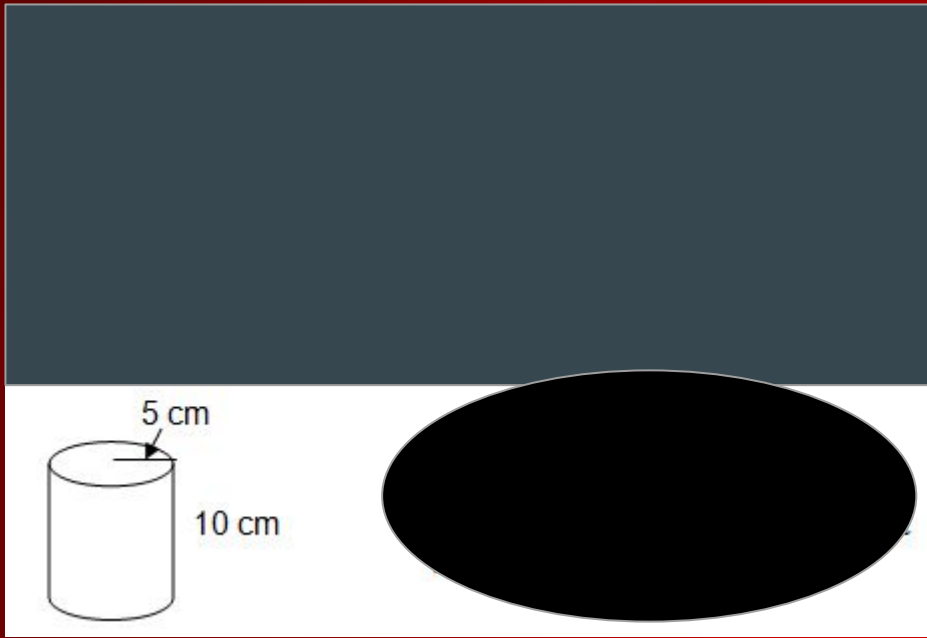
$$V = \frac{4}{3} \pi r^3$$



TAKE OUT A SHEET OF PAPER







## Example problems

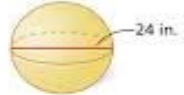
MM2G4. Students will find and compare the measures of a sphere

Guided Practice

### Finding Volumes of Spheres

7. Find the volume of the sphere. Give your answer in terms of  $\pi$ .

$V = \frac{4}{3}\pi r^3$  Volume of a sphere.



24 in.

10

11

Use of changing the radius or diameter of a sphere.



# Examples

Task Solution

The volume of the cone is:

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

