



# Volume

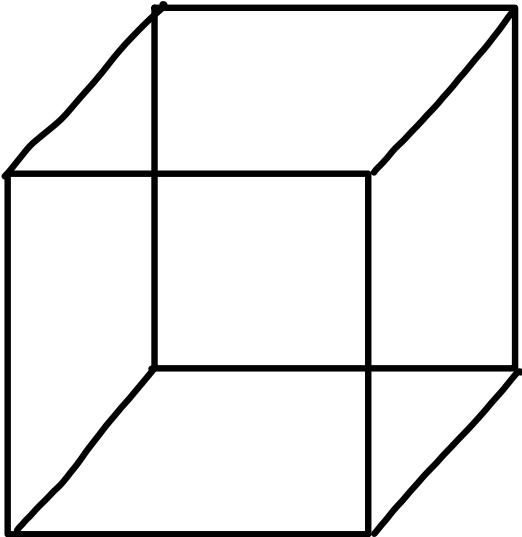


By .... Kru ชี

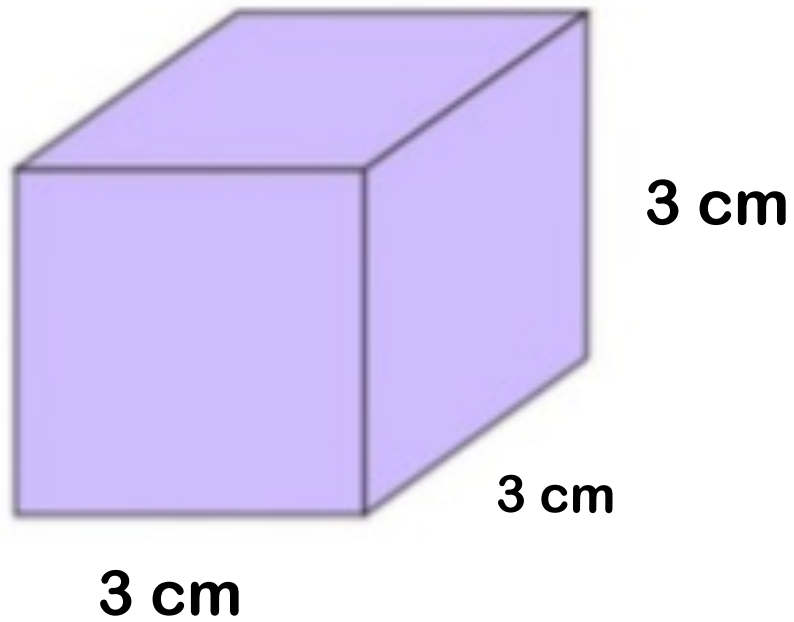
## What is volume?

- Volume is a measure of occupied 3-dimensional space

# Cube



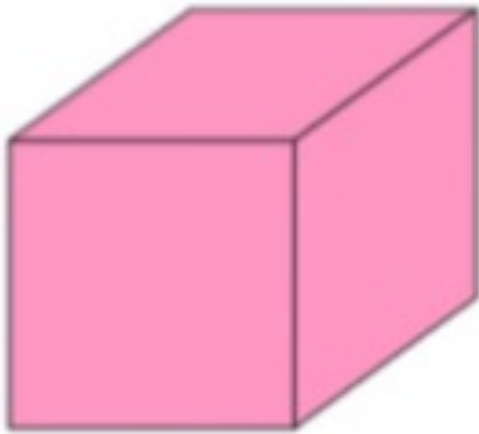
Example



Find volume of cube

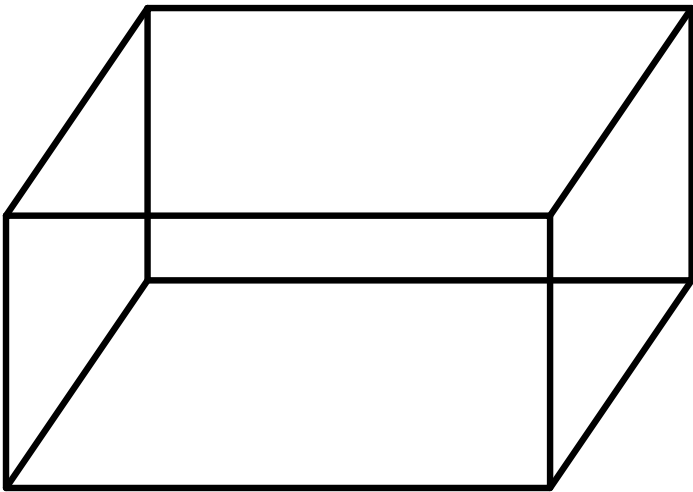
## Example

Volume:  $64\text{m}^3$



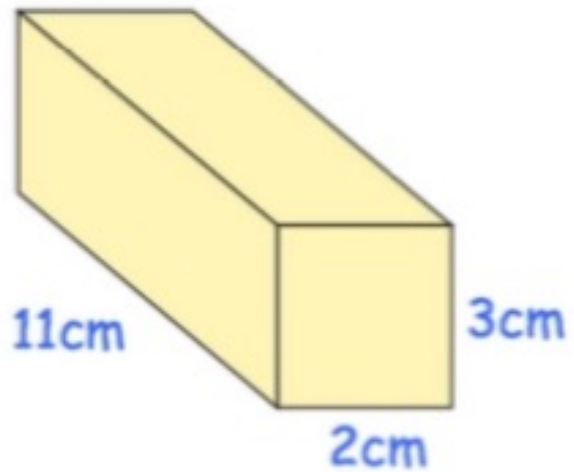
x

# Cuboid



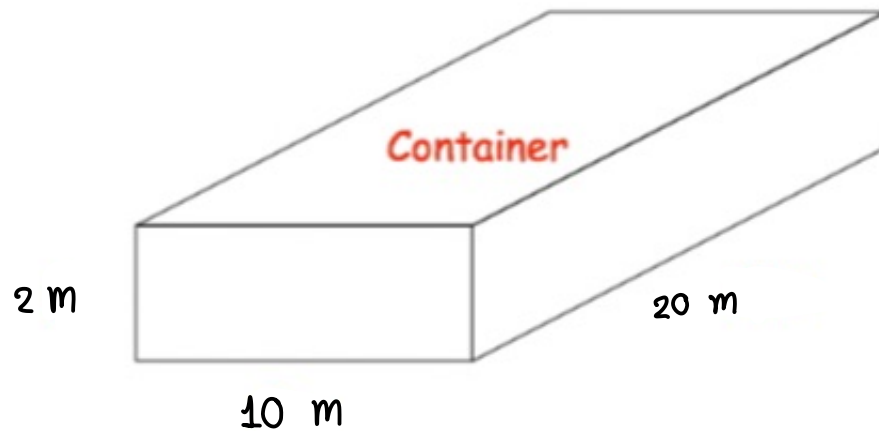
Example

Find the volume

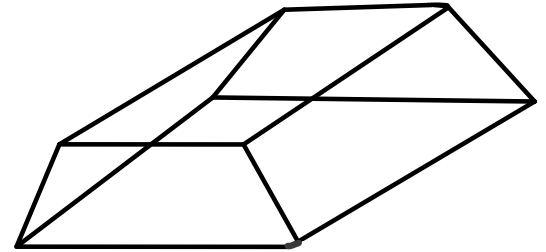
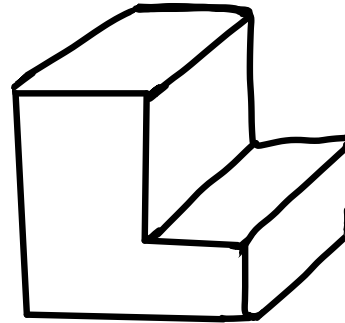
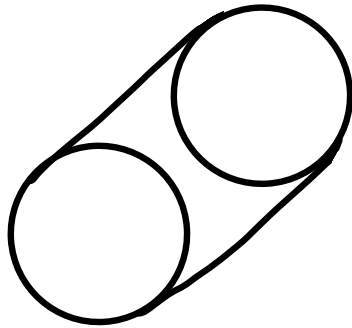
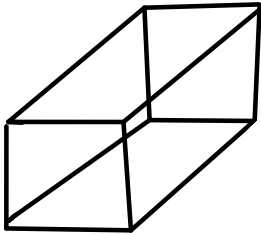
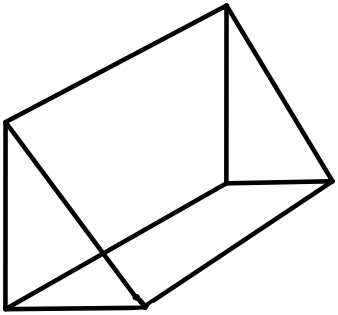


## Example

The cuboid container below is used to store boxes.  
Each box is a cube with side length 1m.  
How many boxes can be stored in the container?

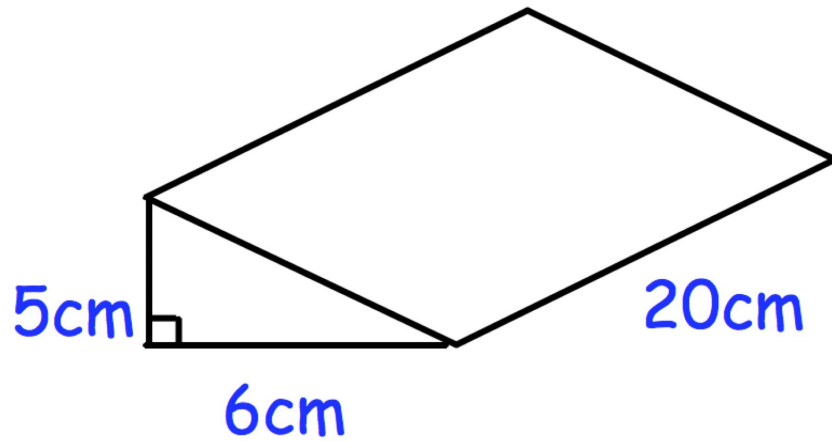


# Prisms



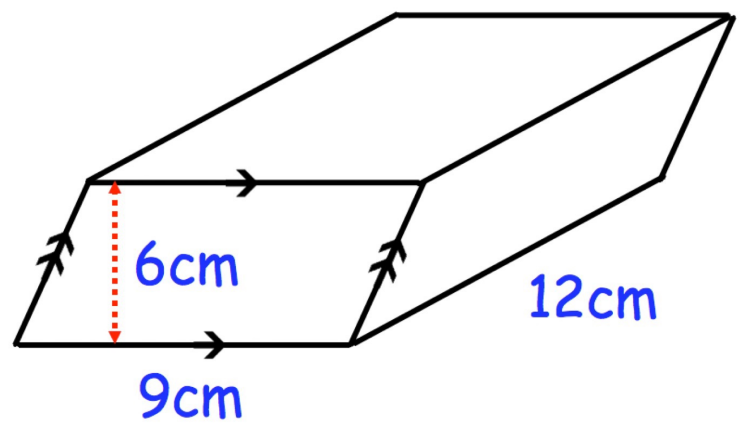
Example

Find the volume



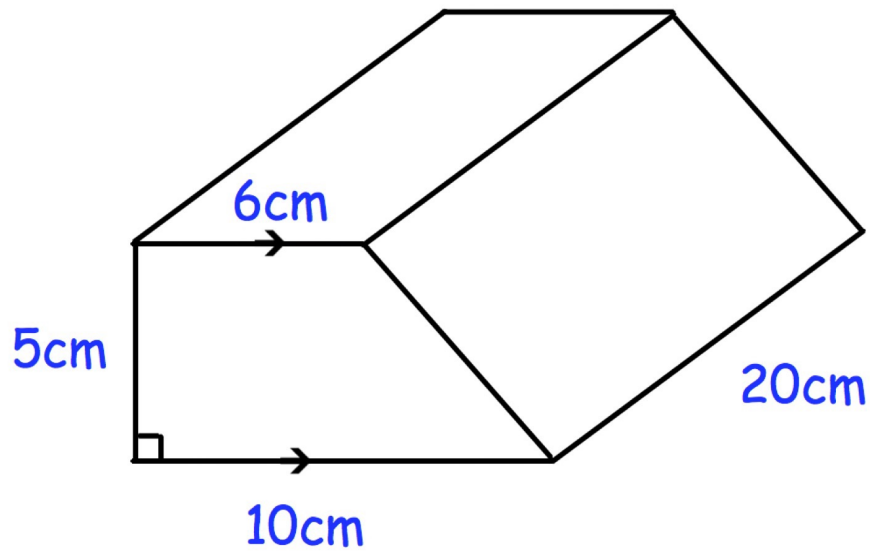
Example

Find the volume



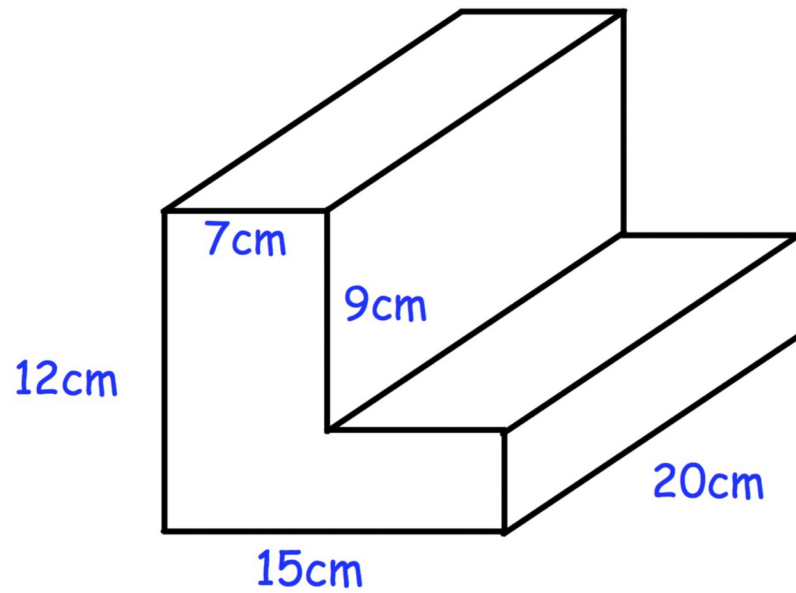
Example

Find the volume



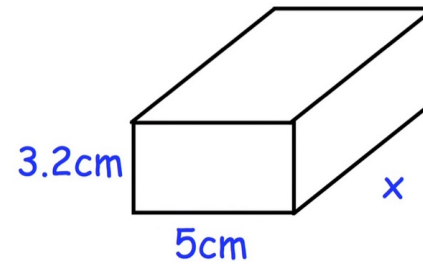
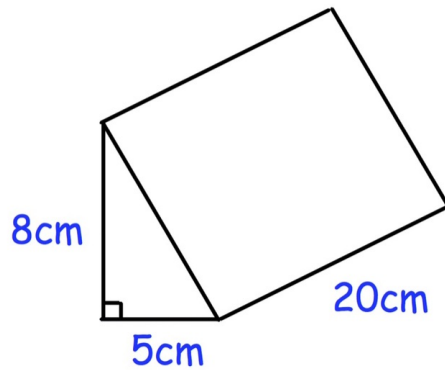
Example

Find the volume

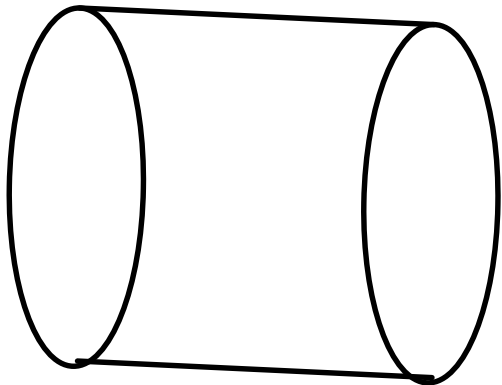
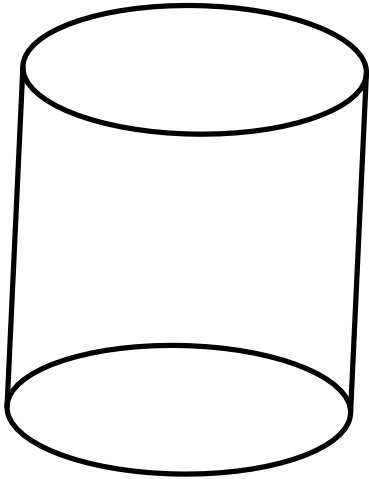


## Example

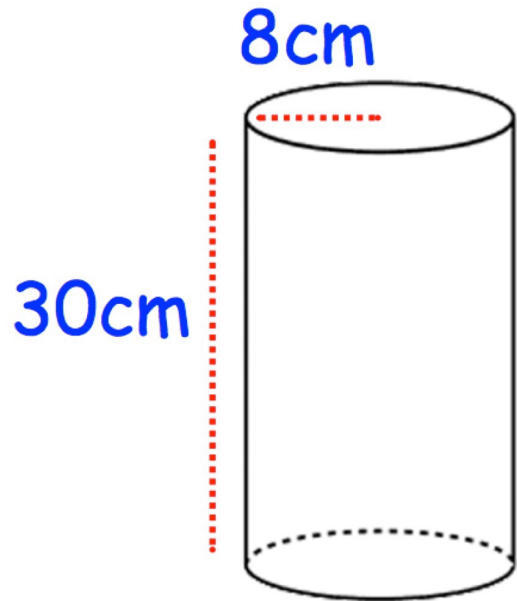
The cuboid and the triangular prism have the same volume.  
Find  $x$ .



# Cylinder

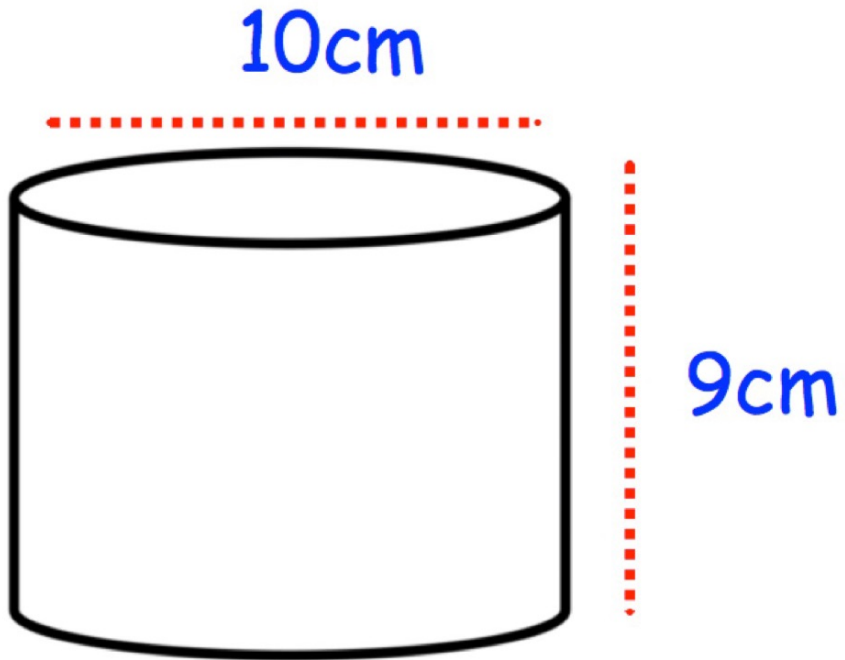


**Example** Find the volume

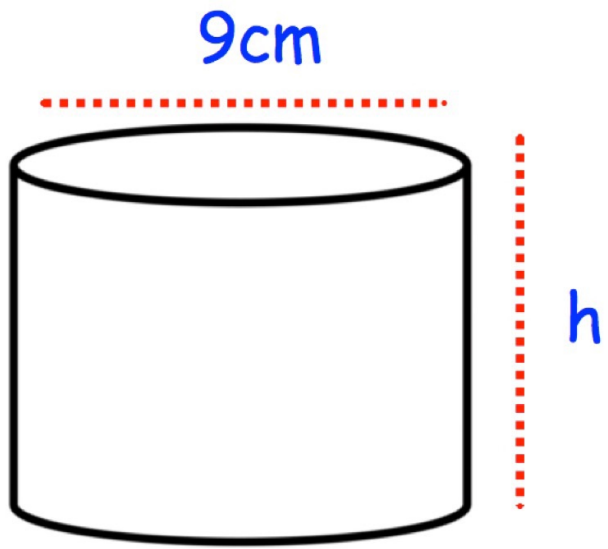


Example

Find the volume

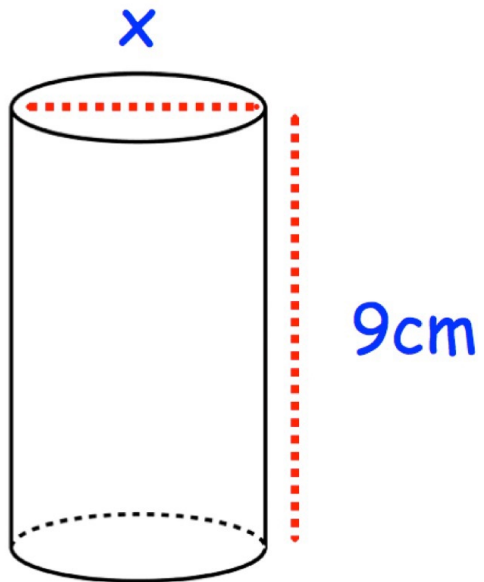


Example



Volume =  $800\text{cm}^3$

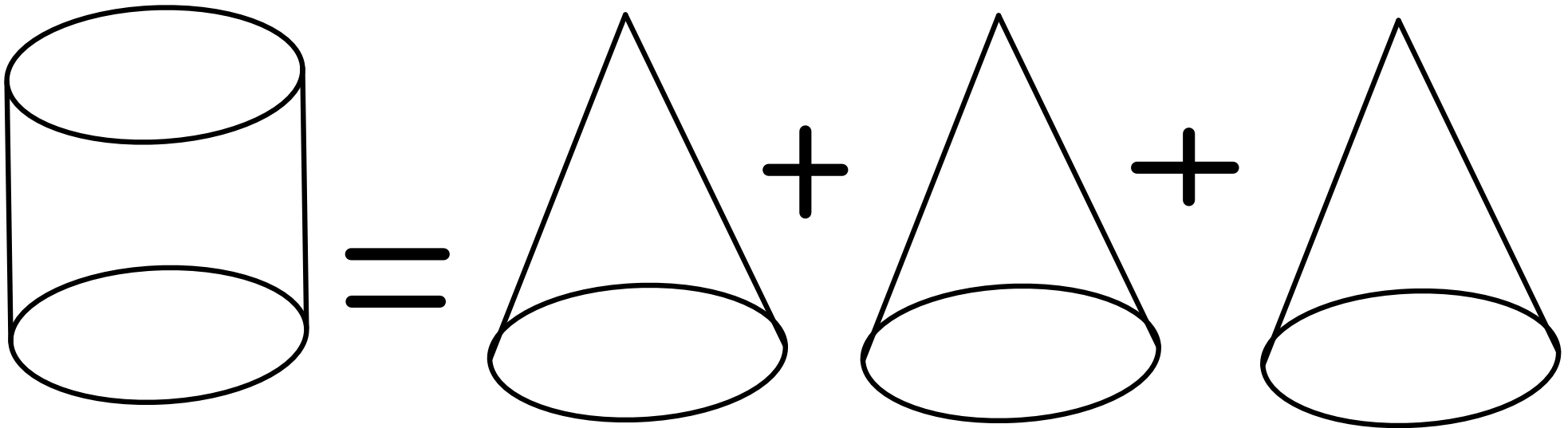
Example



$$\text{Volume} = 170\text{cm}^3$$



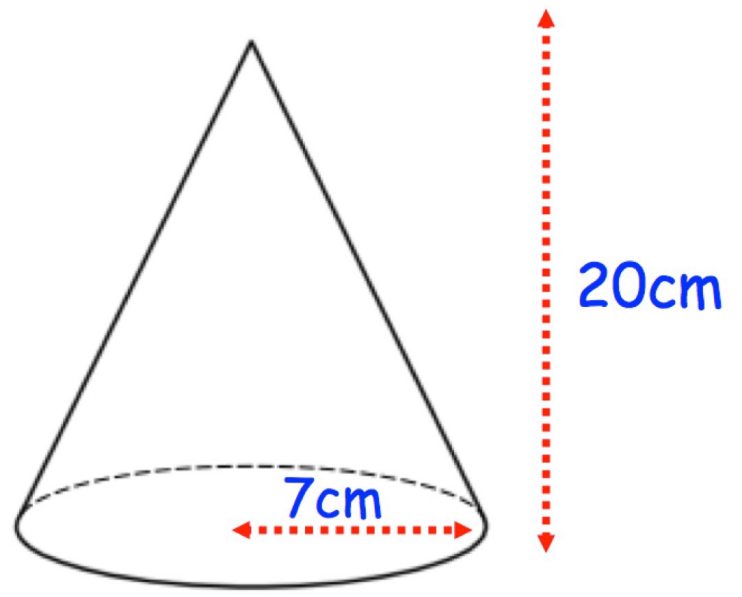
Cone



# Cone

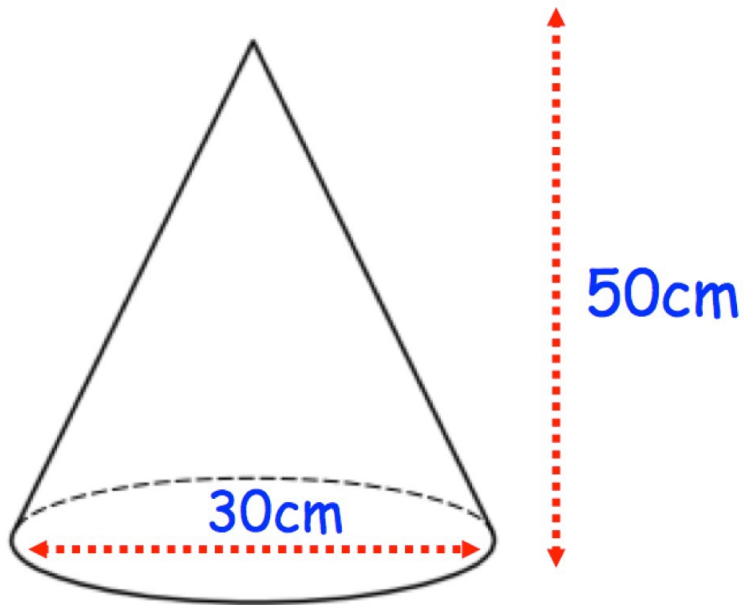
Example

Find the volume

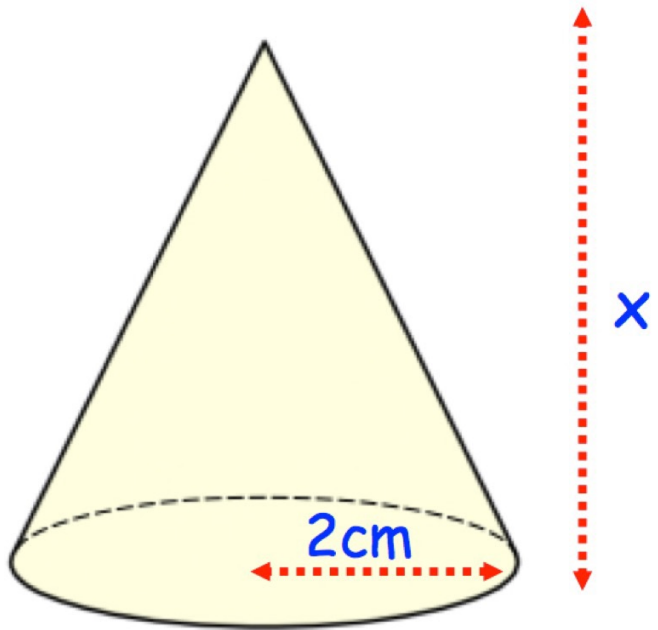


Example

Find the volume

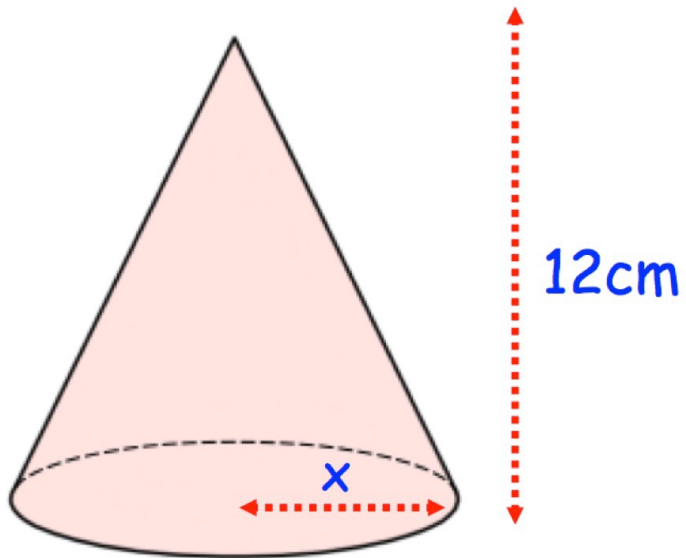


Example



Volume =  $22\text{cm}^3$

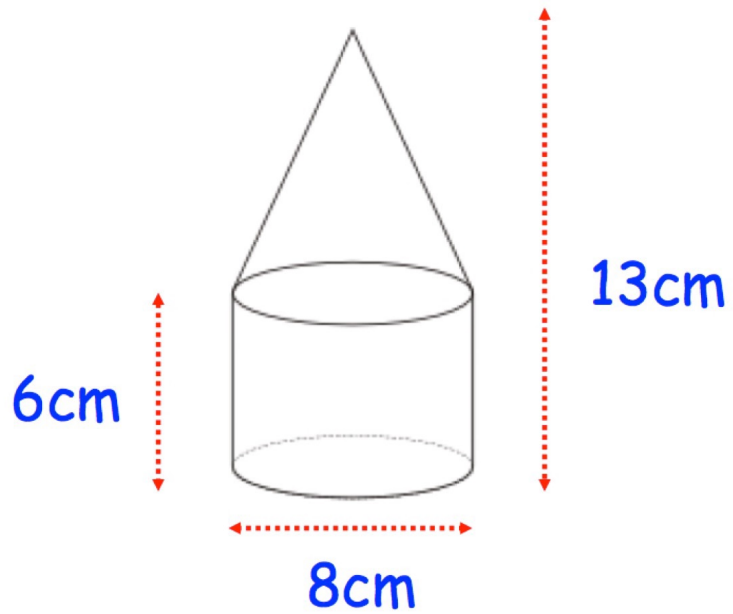
Example



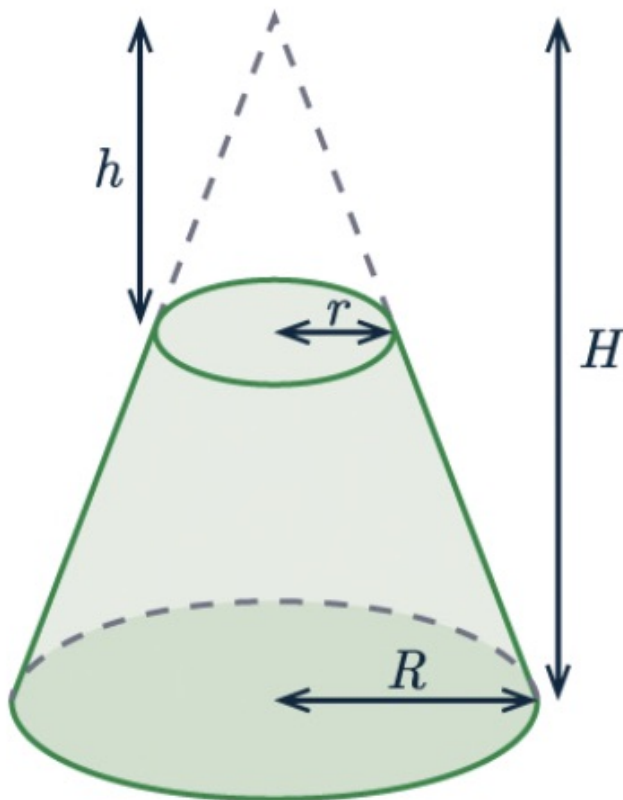
Volume =  $300\text{cm}^3$

Example

Find the volume



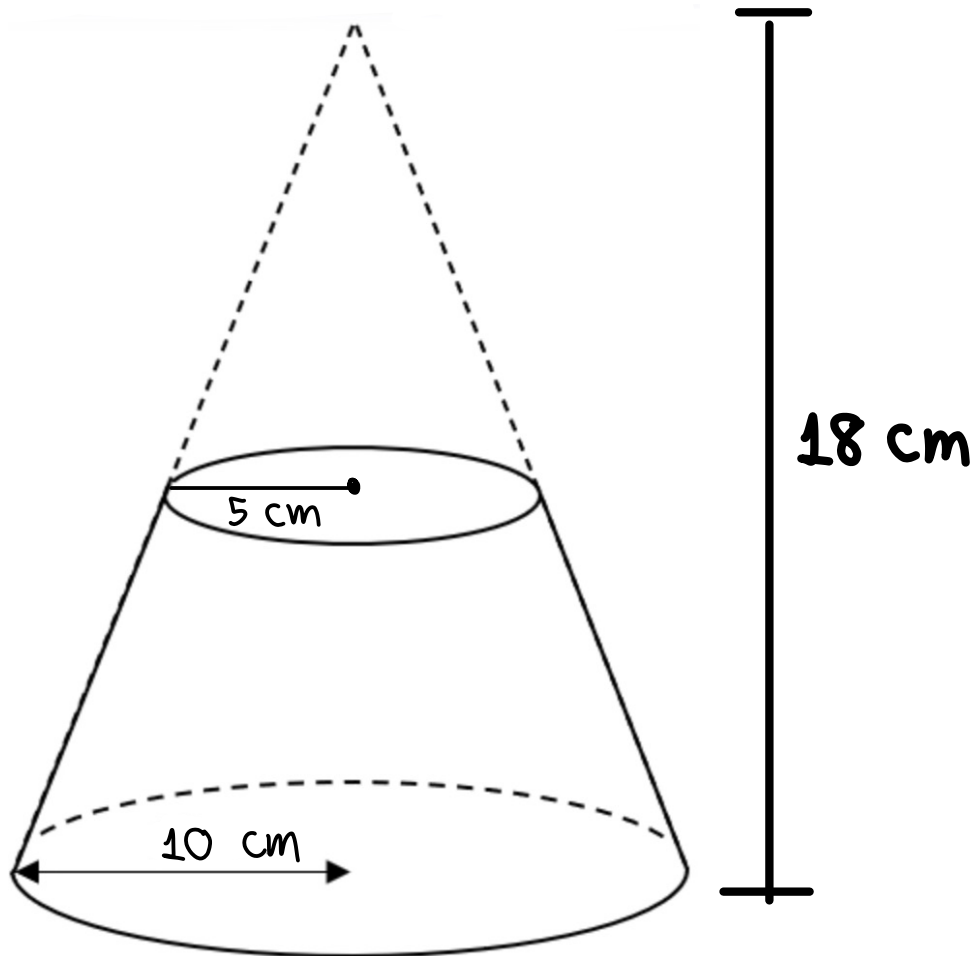
# Frustum



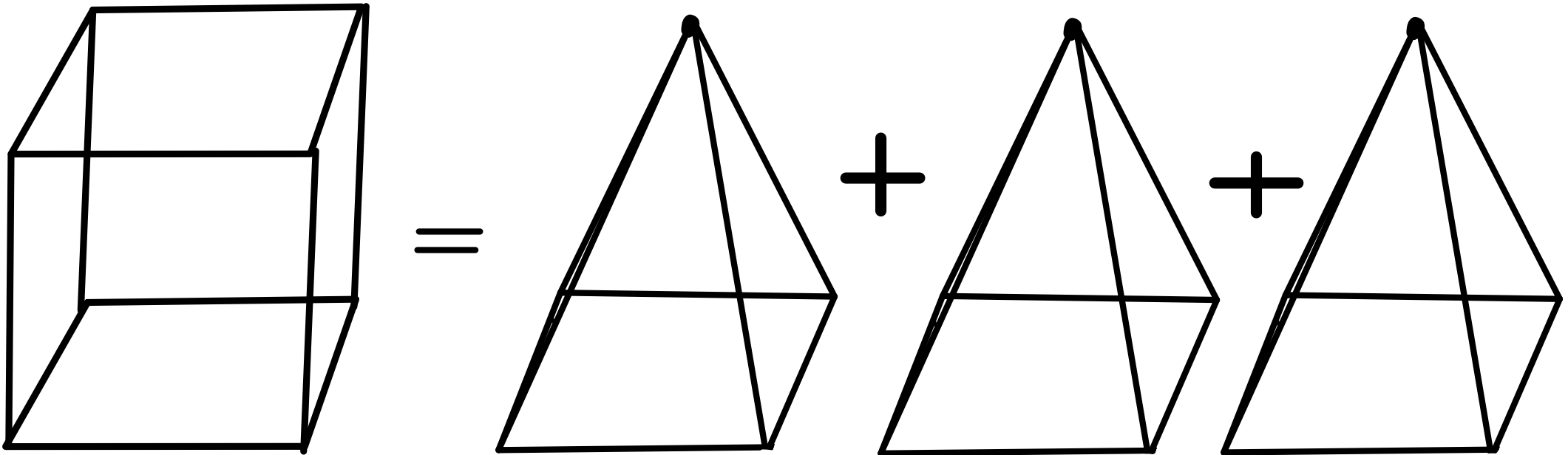
The frustum of a cone is the 3D shape that is left over after you cut the top off

Example

Find the volume of frustum



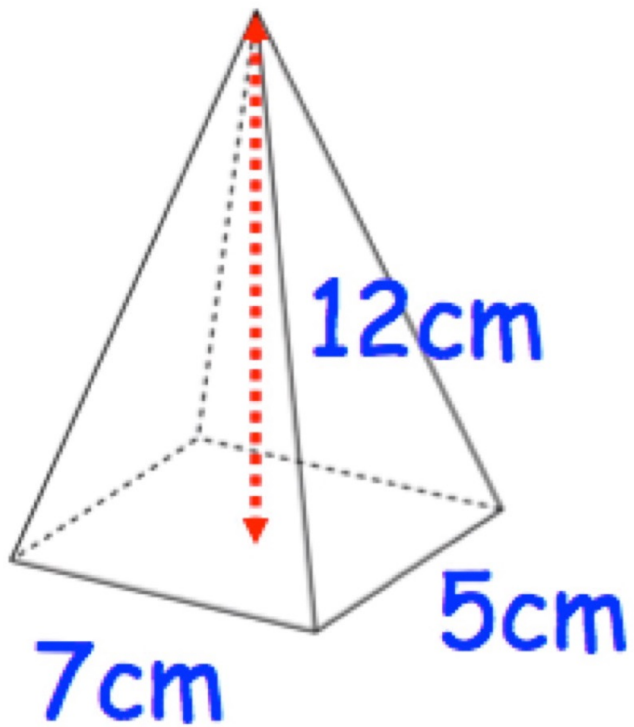
Pyramid



# Pyramid

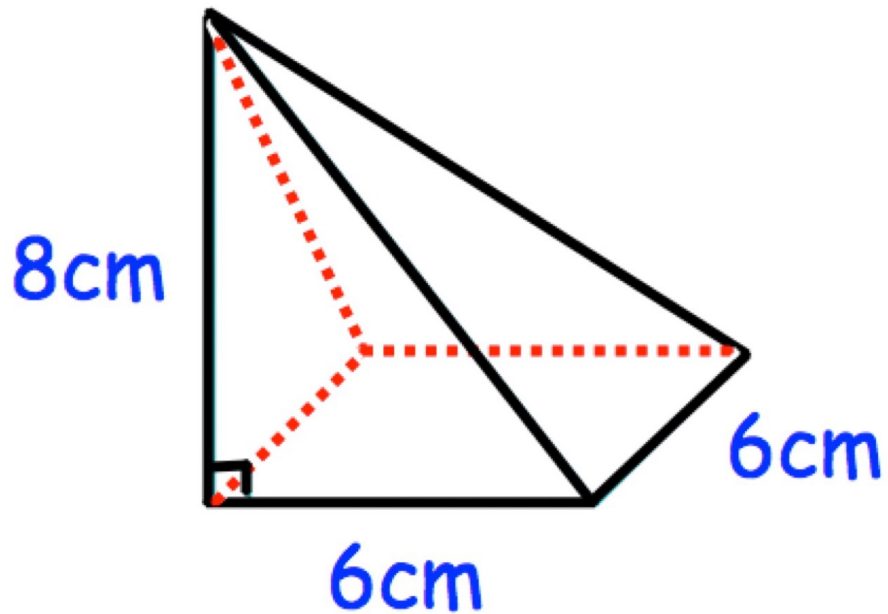
Example

Find the volume

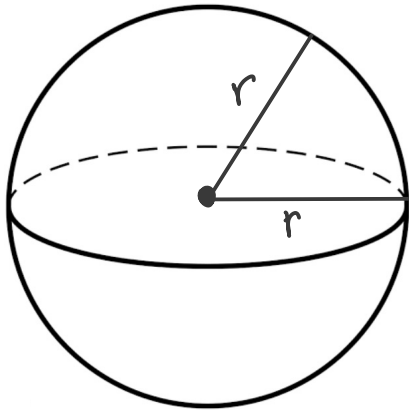


Example

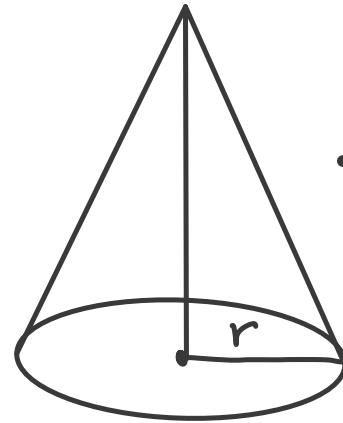
Find the volume



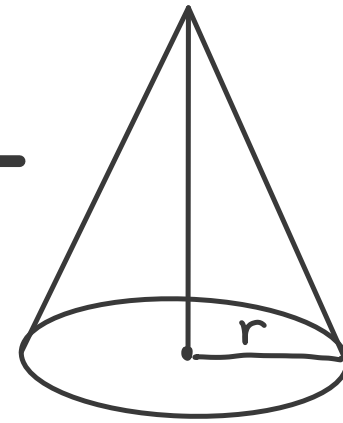
# Sphere



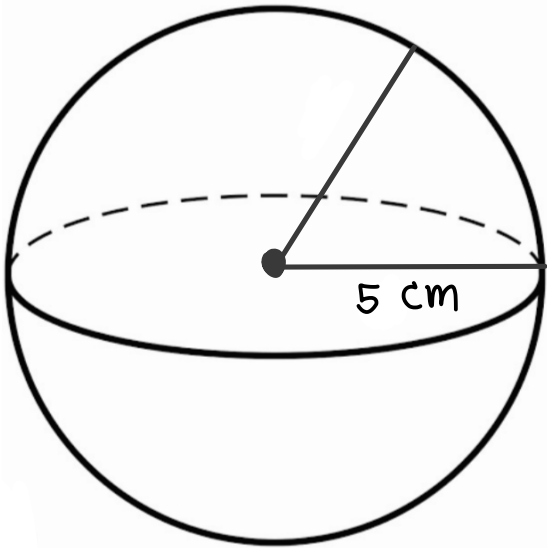
=



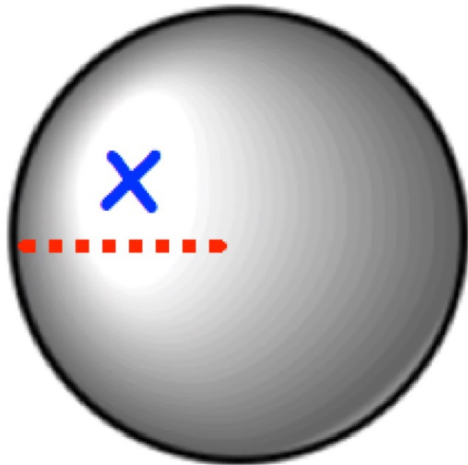
+



**Example** Find the volume



Example



Volume is  $100 \text{ cm}^3$   
Find the value of  $x$

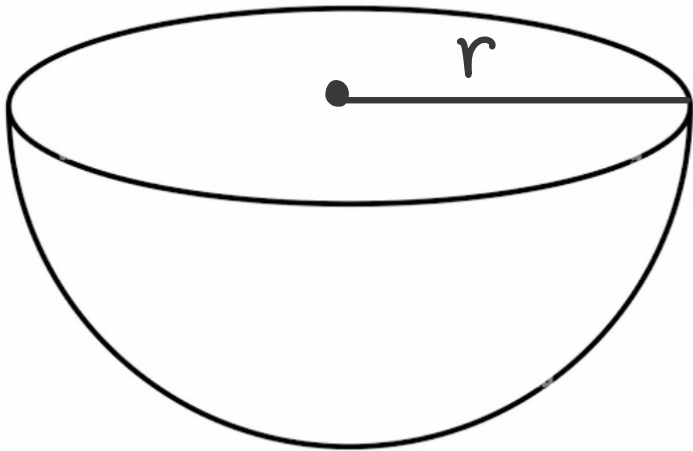
## Example

A metal cuboid measuring 4cm by 5cm by 12cm is melted down and a sphere is made.

Calculate the radius of the sphere.



# Hemisphere



**Example** Find the volume

