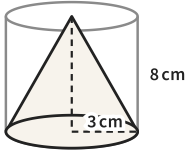


Volume of Cones, Spheres and Pyramids

ANSWERS 

1

Same base, same height. Find the volume of the cylinder, then the cone.
Give your answer to 1 decimal place.



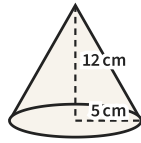
Cylinder: $\pi \times 3^2 \times 8 = 226.2$

Cone: a third of it, $226.2 \div 3$

Volume 75.4 cm^3

2

Find the volume of the cone.
Give your answer to 1 decimal place.

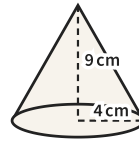


$V = \frac{1}{3} \times \pi \times 5^2 \times 12$

Volume 314.2 cm^3

3

Find the volume of the cone.
Give your answer to 1 decimal place.

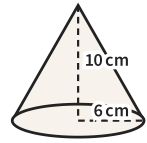


$V = \frac{1}{3} \times \pi \times 4^2 \times 9$

Volume 150.8 cm^3

4

Find the volume of the cone.
Give your answer to 1 decimal place.

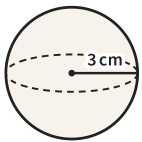


$V = \frac{1}{3} \times \pi \times 6^2 \times 10$

Volume 377.0 cm^3

5

Find the volume of the sphere.
Give your answer to 1 decimal place.

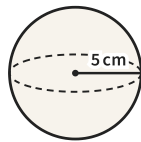


$V = \frac{4}{3} \times \pi \times 3^3$

Volume 113.1 cm^3

6

Find the volume of the sphere.
Give your answer to 1 decimal place.

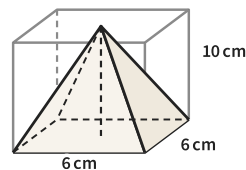


$V = \frac{4}{3} \pi r^3$

Volume 523.6 cm^3

7

Same base, same height. Find the volume of the cuboid, then the pyramid.



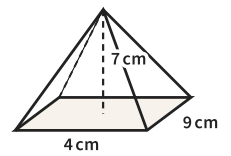
Cuboid: $6 \times 6 \times 10 = 360$

Pyramid: a third of it, $360 \div 3$

Volume 120 cm^3

8

Find the volume of the pyramid.



$V = \frac{1}{3} \times \text{base area} \times \text{height}$

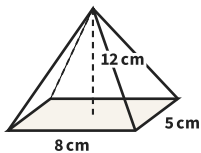
Volume 84 cm^3

Volume of Cones, Spheres and Pyramids *further practice*

ANSWERS 

9

Find the volume of the pyramid.



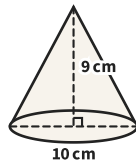
Pyramid: $V = \frac{1}{3} \times \text{base area} \times \text{height}$

$\frac{1}{3} \times 8 \times 5 \times 12$

Volume 160 cm^3

10

Find the volume of the cone to 1 decimal place.



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

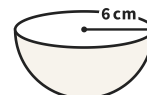
$r = 10 \div 2 = 5$

$\frac{1}{3} \times \pi \times 5^2 \times 9$

Volume 235.6 cm^3

11

The solid is a hemisphere (half a sphere). Find its volume to 1 decimal place.



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

$\frac{4}{3} \times \pi \times 6^3 = 904.78$

$904.78 \div 2$

Volume 452.4 cm^3

12

A bath bomb is a sphere with a radius of 3.5 cm. Find its volume to 1 decimal place.

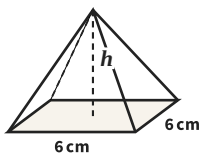
Sphere: $V = \frac{4}{3} \pi r^3$

$\frac{4}{3} \times \pi \times 3.5^3$

Volume 179.6 cm^3

13

This pyramid has a square base and a volume of 96 cm^3 . Find its height, h .



Pyramid: $V = \frac{1}{3} \times \text{base area} \times \text{height}$

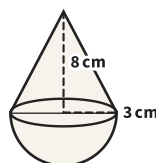
$\frac{1}{3} \times 36 \times h = 96$

$36 \times h = 288$

$h = 8 \text{ cm}$

14

A toy is a cone on top of a hemisphere. Find the volume of the toy to 1 decimal place.

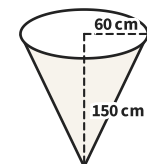


cone 75.40 + hemisphere 56.55

Volume 131.9 cm^3

15

A water tank is a cone with its point at the bottom. How many litres does it hold when full? Give your answer to 1 decimal place. (1 litre = 1000 cm^3)



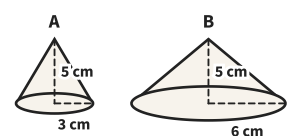
$\frac{1}{3} \times \pi \times 60^2 \times 150 = 565,486.7 \text{ cm}^3$

$\div 1000$

Answer 565.5 litres

16

Cone B has twice the radius of cone A. They are the same height. Priya says cone B has twice the volume of cone A. Is Priya right? Explain.



A: 47.1 cm^3 , B: 188.5 cm^3

Answer *No, it is 4 times as much*