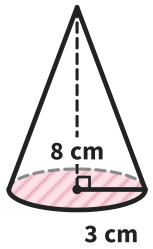
Volume of Cones, Pyramids and Spheres

ANSWERS

1

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

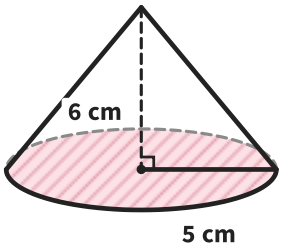


$V = \frac{1}{3} \times \pi \times$ 3 $^2 \times$ 8

Volume 75.4 cm^3

2

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

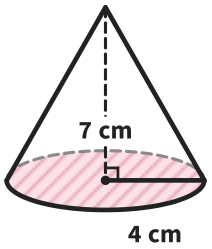


$V = \frac{1}{3} \times \pi \times$ 5 $^2 \times$ 6

Volume 157.1 cm^3

3

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

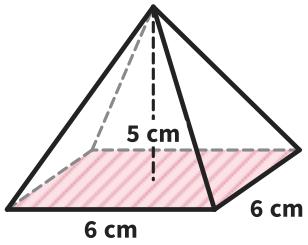


$V = \frac{1}{3} \times \pi \times$ 4 $^2 \times$ 7

Volume 117.3 cm^3

4

Find the volume of the
square-based pyramid.



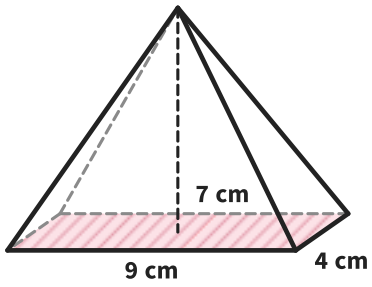
base area = 6 × 6 = 36

$V = \frac{1}{3} \times$ 36 × 5

Volume 60 cm^3

5

Find the volume of the pyramid.
Its base is a rectangle.



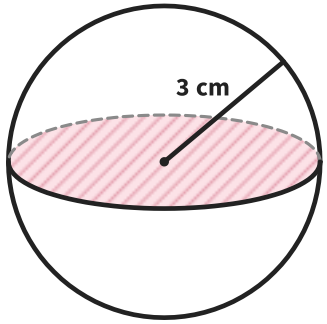
base area = 9 × 4 = 36 cm^2

1/3 × 36 × 7

Volume 84 cm^3

6

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



$V = 4/3 \times \pi \times 3^3 = 36\pi$

Volume 113.1 cm^3

7

A sphere has a radius of 7 cm.
Find its volume. Give your answer to
1 decimal place.

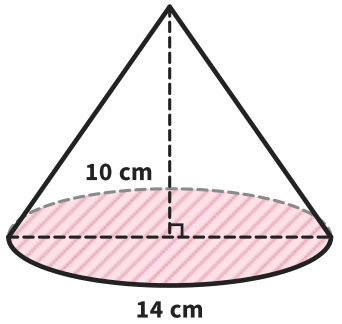
$4/3 \times \pi \times 7^3$

$4/3 \times \pi \times 343$

Volume 1436.8 cm^3

8

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



$r = 14 \div 2 = 7$

$1/3 \times \pi \times 7^2 \times 10$

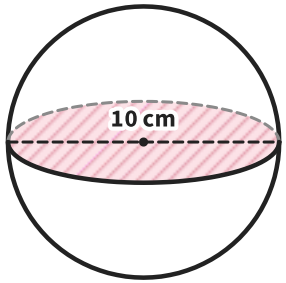
Volume 513.1 cm^3

Volume of Cones, Pyramids and Spheres *further practice*

ANSWERS

9

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



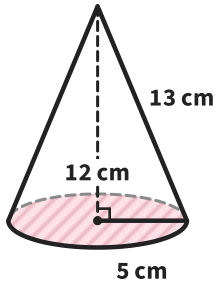
$r = 5$

$4/3 \times \pi \times 5^3$

Volume $523.6\ cm^3$

10

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



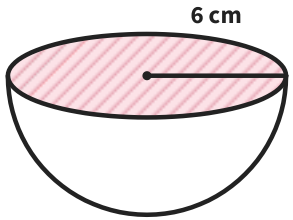
13 cm is the slant height: use 12

$\frac{1}{3} \times \pi \times 5^2 \times 12 = 100\pi$

Volume $314.2\ cm^3$

11

A bowl is a hemisphere, half a sphere, with a radius of 6 cm. Find the volume of the bowl. Give your answer to 1 decimal place.

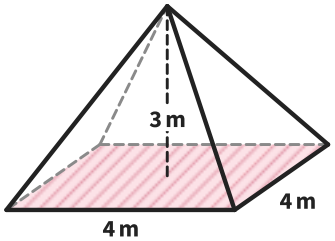


$\frac{1}{2} \times 4/3 \times \pi \times 6^3 = 144\pi$

Volume $452.4\ cm^3$

12

The roof of a tower is a square-based pyramid. The base is 4 m by 4 m and the roof is 3 m high.
Find the volume of the roof.



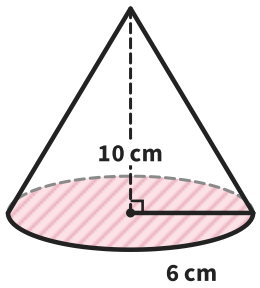
base area = $16\ m^2$

$\frac{1}{3} \times 16 \times 3$

Volume $16\ m^3$

13

Find the volume of the cone.
Give your answer in terms of π.



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

$\frac{1}{3} \times 360\pi$

Volume $120\pi\ cm^3$

14

A ball is a sphere with a radius of 3 cm.
A cone has a radius of 4 cm and a height of 7 cm. Which holds more, and by how much? Give your answer to 1 decimal place.

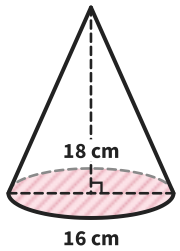
ball: $4/3 \times \pi \times 3^3 = 113.10$

cone: $\frac{1}{3} \times \pi \times 4^2 \times 7 = 117.29$

Answer the cone, by $4.2\ cm^3$

15

A party hat is a cone with a diameter of 16 cm and a height of 18 cm.
Find the volume inside it.
Give your answer to 1 decimal place.



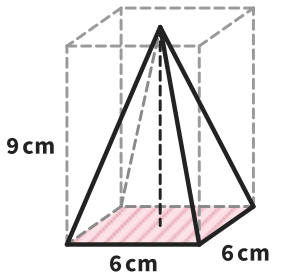
$r = 8$

$\frac{1}{3} \times \pi \times 8^2 \times 18 = 384\pi$

Volume $1206.4\ cm^3$

16

The pyramid fits exactly in the cuboid.
Priya says the pyramid has half the volume of the cuboid. Is Priya right? Explain.



cuboid $324\ cm^3$, pyramid $108\ cm^3$

108 is a third of 324

Answer No, it is a third