

10.5 Volume of Spheres

Objective: Students will be able to find surface area and volume of Spheres

Spheres

A 3-dimensional object shaped like a _____. Every point on the surface is the same distance from the _____.



Sphere



Sphere

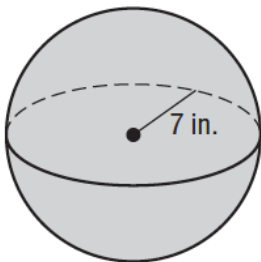


Cute

Volume of a Prism:

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

r = radius of the sphere



1. Find the radius of the sphere
2. Plug into formula

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

$$V = \frac{4}{3} \pi (\quad)^3$$

radius of the sphere

$$V = \frac{\quad}{\pi}$$

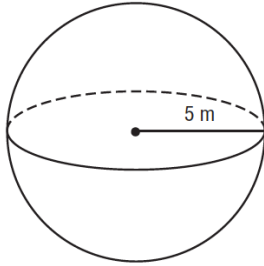
In terms of π

$$V = \frac{\quad}{\quad}$$

Decimal (nearest hundredth)

Independent Practice

Find the volume of the sphere below. Round your answer to the nearest tenth.



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

$$V = \frac{4}{3} \pi (\quad)^3$$

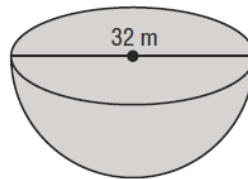
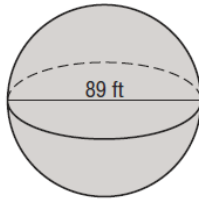
$$V = \underline{\hspace{2cm}}$$

In terms of π

$$V = \underline{\hspace{2cm}}$$

Decimal (nearest hundredth)

Find the volume of the spheres below. Round your answer to the nearest tenth.



The volume, in cubic centimeters, of a sphere whose diameter is 6 centimeters is

- 1) 12π
- 2) 36π
- 3) 48π
- 4) 288π

The volume of a sphere is approximately 44.6022 cubic centimeters. What is the radius of the sphere, to the *nearest tenth of a centimeter*?

- 1) 2.2
- 2) 3.3
- 3) 4.4
- 4) 4.7

The diameter of a basketball is approximately 9.5 inches and the diameter of a tennis ball is approximately 2.5 inches. The volume of the basketball is about how many times greater than the volume of the tennis ball?

- | | |
|----------|--------|
| (1) 3591 | (3) 55 |
| (2) 65 | (4) 4 |