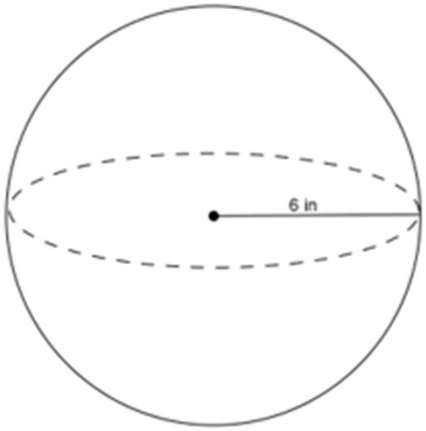
Volumes of Spheres

1. Use the diagram and the general formula to find the volume of the sphere.



2. The average basketball has a diameter of 9.5 inches. What is the volume of an average basketball? Round your answer to the tenths place.

3. A spherical fish tank has a radius of 8 inches. Assuming the entire tank could be filled with water, what would the volume of the tank be? Round your answer to the tenths place.

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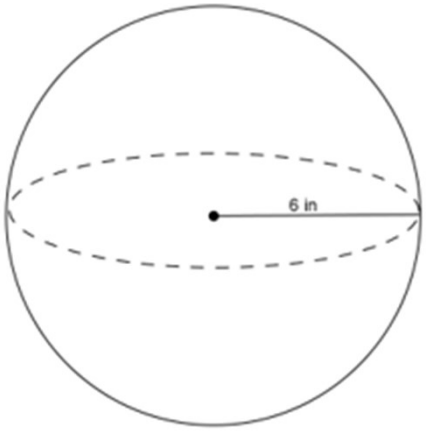

$$V = \frac{4}{3}\pi r^3$$

$$V = \frac{4}{3}\pi(6^3)$$

$$V \approx 288\pi$$

The volume of the sphere is about 288π in^3.

2. The average basketball has a diameter of 9.5 inches. What is the volume of an average basketball? Round your answer to the tenths place.

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

$$\boldsymbol{V = \frac{4}{3}\pi(4.75^3)}$$

$$\boldsymbol{V = \frac{4}{3}\pi(107.17)}$$

$$\boldsymbol{V \approx 142.9\pi}$$

The volume of an average basketball is about 142.9π in^3.

3. A spherical fish tank has a radius of 8 inches. Assuming the entire tank could be filled with water, what would the volume of the tank be? Round your answer to the tenths place.

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

$$\boldsymbol{V = \frac{4}{3}\pi(8^3)}$$

$$\boldsymbol{V = \frac{4}{3}\pi(512)}$$

$$\boldsymbol{V \approx 682.7\pi}$$

The volume of the fish tank is about 682.7π in^3.