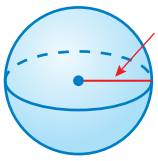
REVIEW: Volumes of Spheres

Name _____

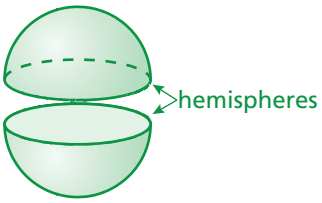
Key Concept and Vocabulary



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

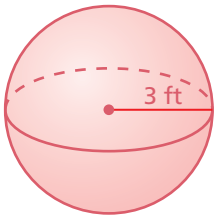
Visual Model

A hemisphere is one-half of a sphere.



Skill Example

1.



$V = \frac{4}{3}\pi \cdot 3^2$

$= 36\pi \text{ ft}^3$

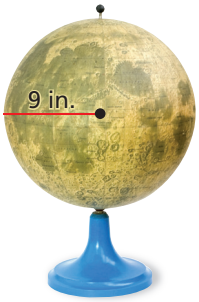
Application Example

2. Find the volume of the globe.

$V = \frac{4}{3}\pi \cdot 9^3$

$= 972\pi$

∴ The volume is 972π cubic inches.



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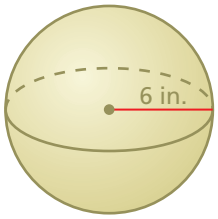
Check your answers at BigIdeasMath.com.

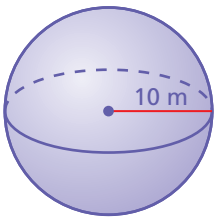
Find the volume of the sphere.

3.



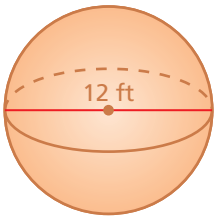
$V =$ $288\pi \text{ in.}^3$

4.



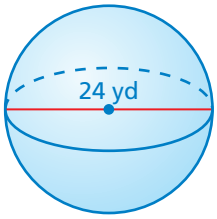
$V =$ $1333\frac{1}{3}\pi \text{ m}^3$

5.



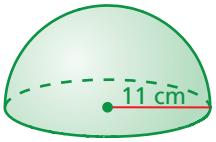
$V =$ $288\pi \text{ ft}^3$

6.



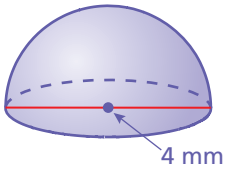
$V =$ $2304\pi \text{ yd}^3$

7.



$V =$ $887\frac{1}{3}\pi \text{ cm}^3$

8.



$V =$ $5\frac{1}{3}\pi \text{ mm}^3$

9. VOLLEYBALL A box is in the shape of a cube with edge lengths of 8 inches. Will the volleyball fit inside the box? no

Volume = 320 in.^{3}