

Spheres:

A. Definitions

A sphere is a 3-dimensional figure in which the distance from the center to the edge is the same at every point.

B. Basic Memorizations

$$\text{Surface Area} = 4\pi r^2$$

$$\text{Volume} = \frac{4}{3} \cdot \pi r^3$$

C. Examples

Ex [1] The surface area of a sphere of radius 3" is _____ in².

a. The answer is $4\pi \cdot 3^2 = 36\pi$.

Ex [2] The volume of a sphere of radius 6cm is _____ cm³.

a. The answer is $\frac{4}{3} \cdot 6^3 \pi = \frac{4}{3} \cdot 216\pi = 4 \cdot 72\pi = 288\pi$