

# Unit 6 – Google Meet Notes

## Volume of Spheres

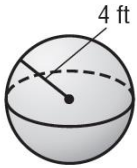
A **sphere** is a set of all points in space that are a given distance from a given point.

The volume  $V$  of a sphere with radius  $r$  is four thirds the product of  $\pi$  and the cube of the radius  $r$ .

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

### Example

Find the volume of the sphere. Round to the nearest tenth.



$$V = \frac{4}{3}\pi r^3 \quad \text{Volume of a sphere}$$

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

$$V \approx 268.1 \quad \text{Simplify. Use a calculator.}$$

The volume is about 268.1 cubic feet.

### Exercises

Find the volume of each sphere. Round to the nearest tenth.

