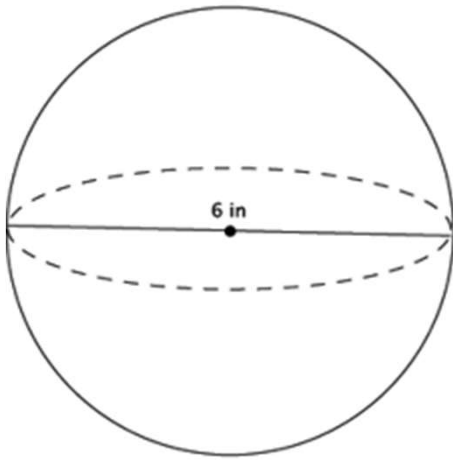
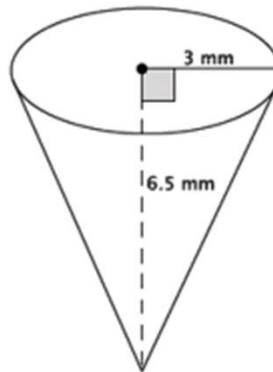
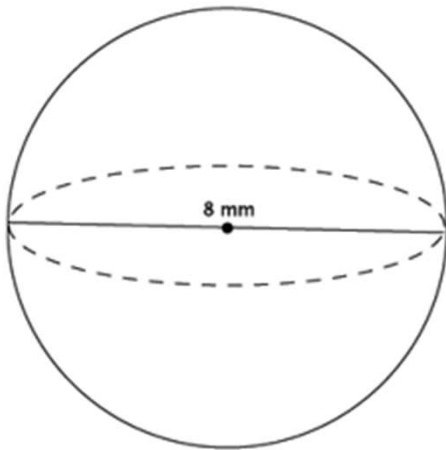


Volumes of Spheres

1. What is the volume of the sphere shown below?

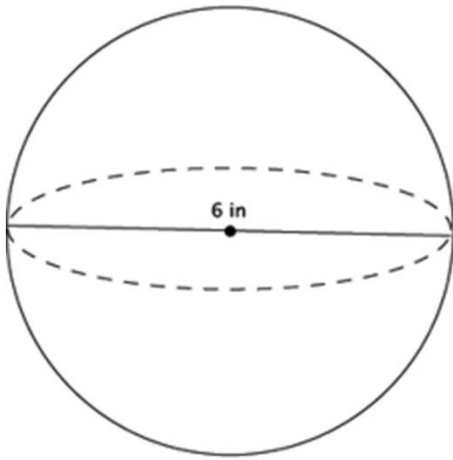


2. Which of the two figures below has the greater volume?



Volumes of Spheres

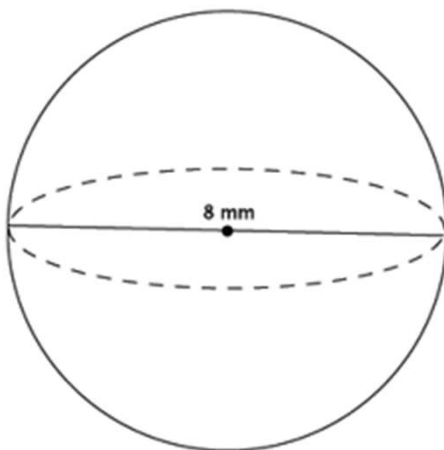
1. What is the volume of the sphere shown below?



$$\begin{aligned}V &= \frac{4}{3}\pi r^3 \\&= \frac{4}{3}\pi(3^3) \\&= \frac{108}{3}\pi \\&= 36\pi\end{aligned}$$

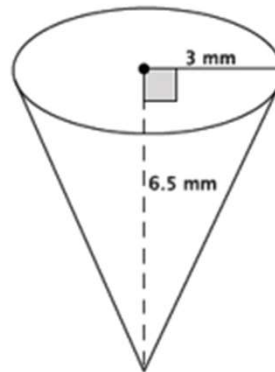
The volume of the sphere is $36\pi \text{ in}^3$.

2. Which of the two figures below has the greater volume?



$$\begin{aligned}V &= \frac{4}{3}\pi r^3 \\&= \frac{4}{3}\pi(4^3) \\&= \frac{256}{3}\pi \\&= 85\frac{1}{3}\pi\end{aligned}$$

The volume of the sphere is $85\frac{1}{3}\pi \text{ mm}^3$.



$$\begin{aligned}V &= \frac{1}{3}\pi r^2 h \\&= \frac{1}{3}\pi(3^2)(6.5) \\&= \frac{58.5}{3}\pi \\&= 19.5\pi\end{aligned}$$

The volume of the cone is $19.5\pi \text{ mm}^3$.
The sphere has the greater volume.

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