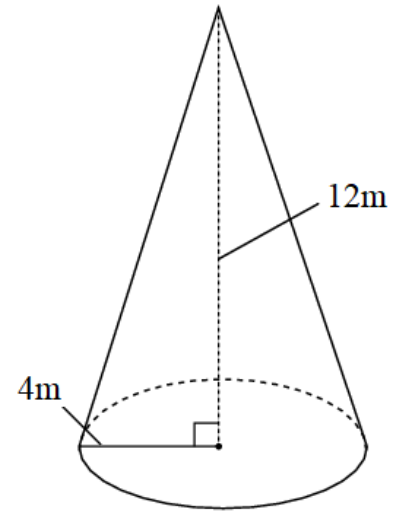


## Part A: Volume of Cones, Cylinders, and Spheres [8.G.9]

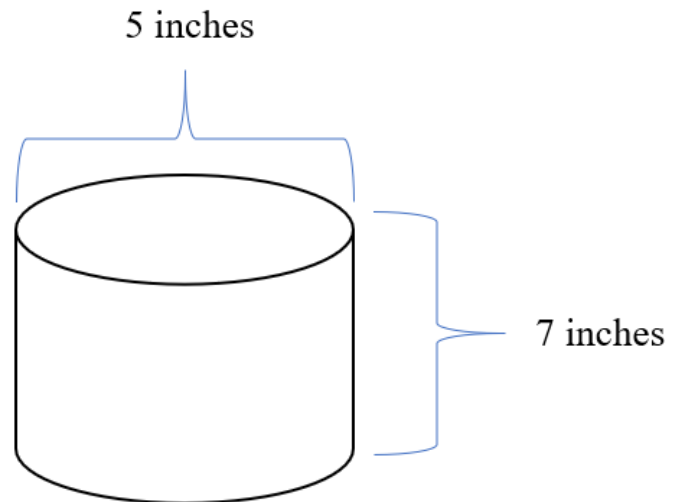
1. A cone has height 12 meters and radius 4 meters.

**Determine** the volume of the cone, in cubic meters, and round to the nearest hundredth.



2. A cylinder measures 7 inches tall with a diameter of 5 inches.

**Determine** the volume of the cylinder, in cubic inches, and round to the nearest tenth.



3. A sphere has radius 12 mm.

**Determine** the volume of the sphere, in cubic mm, and round to the nearest hundredth.

4. Carla is designing several containers for a science project. The containers must all have the same volume. **Select** all the containers which have the same volume.
- A) A sphere with radius 6 inches.
- B) A cylinder with radius 3 inches and height 32 inches.
- C) A cylinder with radius 6 inches and height 16 inches.
- D) A cone with radius 6 inches and height 8 inches.

5. Carla is working on the second part of her science project. She needs to design containers that meet the following specifications. **Design** an appropriate container to meet each specification. **Prove** the dimensions meet the specifications.
- | Container A                                          | Container B                                        | Container C                                                 |
|------------------------------------------------------|----------------------------------------------------|-------------------------------------------------------------|
| Sphere with volume between 100 and 150 cubic inches. | Cone with volume between 200 and 300 cubic meters. | Cylinder with volume between 350 and 380 cubic centimeters. |
|                                                      |                                                    |                                                             |