# Grade 8

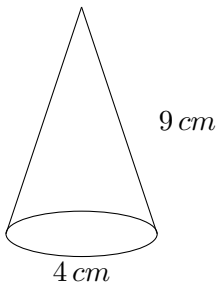
## Topic: Volumes of Cones

**Instructions**

Use the formula $V = \frac{1}{3}\pi r^2 h$ to find the volume of each cone. Use $\pi \approx 3.14$ if necessary. Show all work and round your answers to two decimal places.

## Practice Problems

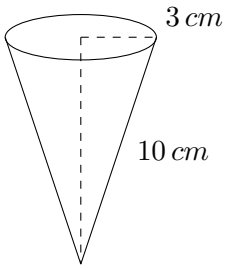
1. Find the volume of a cone with radius $4\,cm$ and height $9\,cm$.




2. A cone has a diameter $10\,cm$ and height $12\,cm$. Find its volume.
3. The volume of a cone is $150\,cm^3$ and its radius is $5\,cm$. Find its height.
4. Find the radius of a cone with volume $314\,cm^3$ and height $6\,cm$.
5. A cone-shaped container has a radius of $7\,m$ and a height of $15\,m$. How much water can it hold?

## Word Problems

1. An ice cream cone has a diameter of $6\,cm$ and a height of $10\,cm$. Find the volume of ice cream it can hold.




2. A conical tent has a radius of $5\,m$ and a height of $8\,m$. Find the volume of air inside the tent.

## Multiple-Choice Questions

1. What is the formula for the volume of a cone?

   A. $V = \pi r^2 h$
   B. $V = \frac{1}{3}\pi r^2 h$
   C. $V = \frac{4}{3}\pi r^3$
   D. $V = 2\pi r h$

2. A cone has radius $3\,cm$ and height $7\,cm$. What is its approximate volume?

   A. $65.94\,cm^3$
   B. $66\,cm^3$
   C. $220\,cm^3$
   D. $69.3\,cm^3$

3. If the height of a cone is doubled, what happens to its volume?

   A. It doubles.
   B. It triples.
   C. It becomes four times as large.
   D. It stays the same.