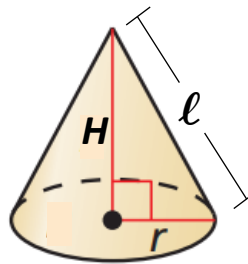
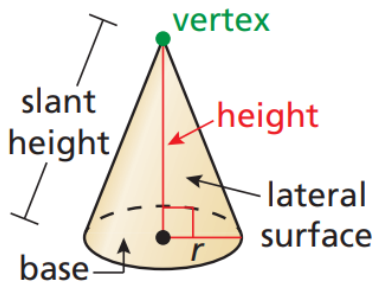


# Core Concept

A **cone** has a circular base and a vertex that is not in the same plane as the base.



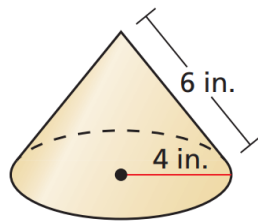
**Volume:**  $V = \frac{1}{3} \pi r^2 H$

**Surface Area:**  $S = \pi r^2 + \pi r \ell$

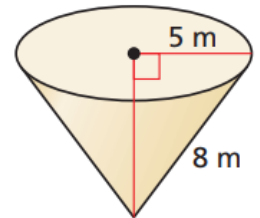
**Also:**  $r^2 + H^2 = \ell^2$

\*Note: Use the Height,  $H$ , to find **Volume**  
Use Slant Height,  $\ell$ , to find **Surface Area**

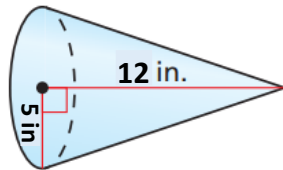
1) Find the surface area:



2) Find the volume:



3) Find the slant height, surface area and volume:

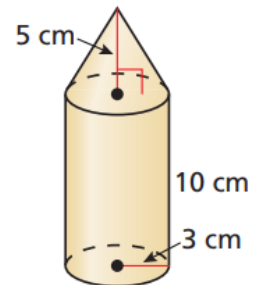


$\ell =$

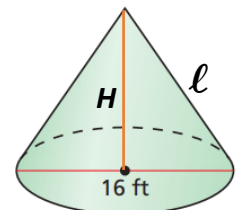
$S =$

$V =$

4) Find the volume:



5) Find the missing dimensions:  
Surface Area =  $200\pi$



$\ell =$

$H =$