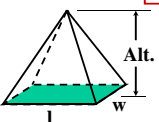


Lesson 10-7

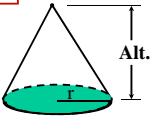
Objective - To find the volume of pyramids and cones.

Volume = $\frac{1}{3} \bullet$ Base Area \bullet Altitude

$V = \frac{1}{3} \bullet B \bullet \text{Alt.}$



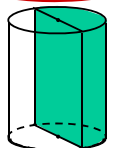
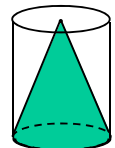
$V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (l \bullet w) \bullet \text{Alt.}$



$V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (\pi \bullet r^2) \bullet \text{Alt.}$

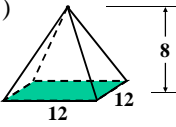
Which figure has greater volume?

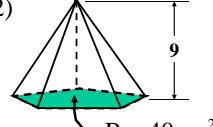
Half cylinder Cone

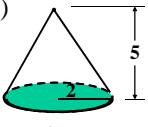
$V = \frac{1}{2} \pi r^2 \bullet \text{Alt.}$ $V = \frac{1}{3} \pi r^2 \bullet \text{Alt.}$

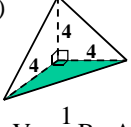
Find the volume.

1) 
 $V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (l \bullet w) \bullet \text{Alt.}$
 $V = \frac{1}{3} (12 \bullet 12) \bullet 8$
 $V = 384 \text{ un}^3$

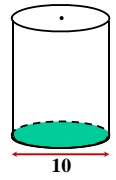

2) 
 $V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (40) \bullet 9$
 $V = 120 \text{ un}^3$

Find the volume.

3) 
 $V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (\pi r^2) \bullet \text{Alt.}$
 $V = \frac{1}{3} (\pi (2)^2) \bullet 5$
 $V = \frac{20}{3} \pi \text{ un}^3 \approx 20.94 \text{ un}^3$

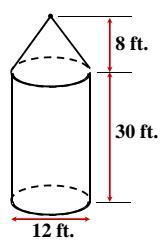
4) 
 $V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = \frac{1}{3} (\frac{1}{2} b \bullet h) \bullet \text{Alt.}$
 $V = \frac{1}{3} (\frac{1}{2} (4 \bullet 4)) \bullet 4$
 $V \approx 10.67 \text{ un}^3$

Find the volume of each in terms of π .

$V = B \bullet \text{Alt.}$ $V = \frac{1}{3} B \bullet \text{Alt.}$
 $V = (\pi \bullet r^2) \bullet \text{Alt.}$ $V = \frac{1}{3} (\pi \bullet r^2) \bullet \text{Alt.}$
 $V = (\pi \bullet 5^2) \bullet 12$ $V = \frac{1}{3} (\pi \bullet 5^2) \bullet 12$
 $V = 300\pi \text{ un}^3$ $V = 100\pi \text{ un}^3$ ← Compare →

Find the volume of the silo pictured below.



Cylinder + Cone
 $V = B \bullet \text{Alt.}$ $V = \frac{1}{3} B \bullet \text{Alt.}$
 $(\pi \bullet r^2) \bullet \text{Alt.}$ $\frac{1}{3} (\pi \bullet r^2) \bullet \text{Alt.}$
 $(\pi \bullet 6^2) \bullet 30$ $\frac{1}{3} (\pi \bullet 6^2) \bullet 8$
 $1080\pi \text{ un}^3$ + $96\pi \text{ un}^3$
 $V = 1176\pi \text{ ft}^3$
 $V \approx 3694.51 \text{ ft}^3$