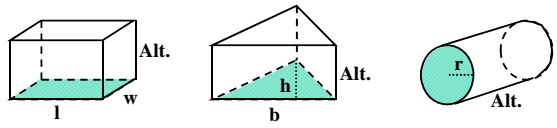


Lesson 10-6

Objective - To find the volume of prisms and cylinders.

Volume = Base Area • Altitude

$V = B \cdot \text{Alt.}$

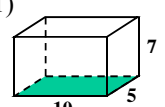


$V = B \cdot \text{Alt.}$
 $V = (l \cdot w) \cdot \text{Alt.}$

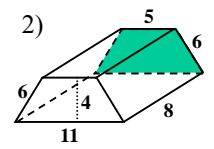
$V = B \cdot \text{Alt.}$
 $V = \left(\frac{1}{2} b \cdot h\right) \cdot \text{Alt.}$

$V = B \cdot \text{Alt.}$
 $V = (\pi \cdot r^2) \cdot \text{Alt.}$

Find the volume.

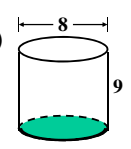
1) 

$V = B \cdot \text{Alt.}$
 $V = (l \cdot w) \cdot \text{Alt.}$
 $V = (10 \cdot 5) \cdot 7$
 $V = 350 \text{ un}^3$

2) 

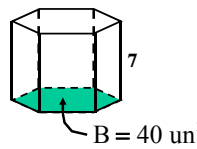
$V = B \cdot \text{Alt.}$
 $V = \left(\frac{1}{2}(b_1 + b_2)h\right) \cdot \text{Alt.}$
 $V = \left(\frac{1}{2}(11+6)4\right) \cdot 8$
 $V = 256 \text{ un}^3$

Find the volume of the cylinder below.

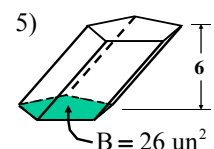
3) 

$V = B \cdot \text{Alt.}$
 $V = (\pi r^2) \cdot \text{Alt.}$
 $V = (\pi(4)^2) \cdot 9$
 $V = (\pi \cdot 16) \cdot 9$
 $V = 144\pi \text{ un}^3$
 $V \approx 144(3.14) \text{ un}^3$
 $V \approx 452.16 \text{ un}^3$

Find the volume of the prisms below.

4) 

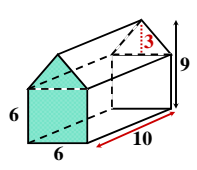
$V = B \cdot \text{Alt.}$
 $V = 40 \cdot 7$
 $V = 280 \text{ un}^3$

5) 

$V = B \cdot \text{Alt.}$
 $V = 26 \cdot 6$
 $V = 156 \text{ un}^3$

Volume of oblique prisms are no different than right prisms.

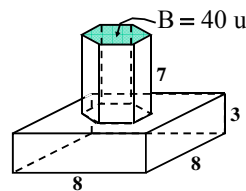
Find the volume of the complex prism below.



Base Area
 Square + Triangle
 $s^2 + \frac{1}{2} b \cdot h$
 $6^2 + \frac{1}{2}(6) \cdot 3$
 $36 + 9$
 45 un^2

$V = B \cdot \text{Alt.}$
 $V = 45 \cdot 10$
 $V = 450 \text{ un}^3$

Find the volume of the complex prism below.



Rectangular Prism + Hexagonal Prism

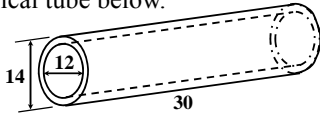
$V = B \cdot \text{Alt.}$
 $V = (l \cdot w) \cdot \text{Alt.}$
 $V = (8 \cdot 3) \cdot 7$
 $V = 192 \text{ un}^3$

$V = B \cdot \text{Alt.}$
 $V = 40 \cdot 3$
 $V = 120 \text{ un}^3$

$V = 192 + 120 = 312 \text{ un}^3$

Lesson 10-6

Find the volume of metal needed to make the cylindrical tube below.



Outer Cylinder	-	Inner Cylinder
$V = B \cdot \text{Alt.}$		$V = B \cdot \text{Alt.}$
$V = (\pi r^2) \cdot \text{Alt.}$		$V = (\pi r^2) \cdot \text{Alt.}$
$V = (\pi \cdot 7^2) \cdot 30$		$V = (\pi \cdot 6^2) \cdot 30$
$V = 1470\pi \text{ un}^3$		$V = 1080\pi \text{ un}^3$

$$V = 1470\pi - 1080\pi \text{ un}^3$$

$$V = 390\pi \text{ un}^3 \approx 1224.6 \text{ un}^3$$