

Name: *Key*

Date:

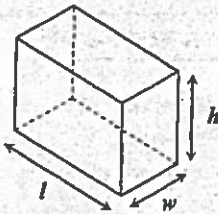
Topic:

Class:

## Main Ideas/Questions

## Notes/Examples

## Rectangular Prisms (or Cubes)

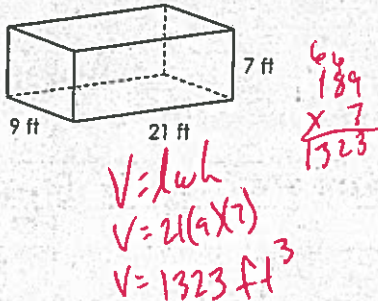


$$V = lwh$$

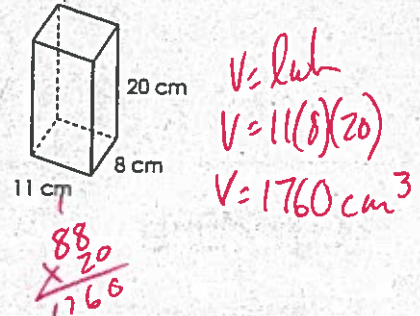
$l$  = length  
 $w$  = width  
 $h$  = height

Find the volume of each rectangular prism.

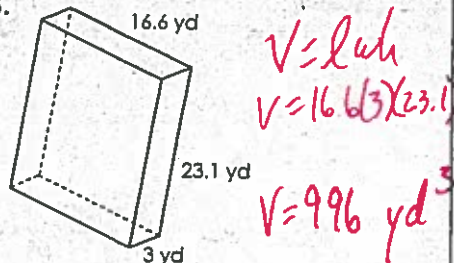
1.



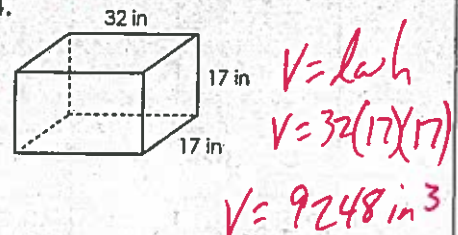
2.



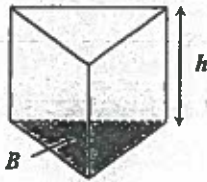
3.



4.



## All Other Prisms

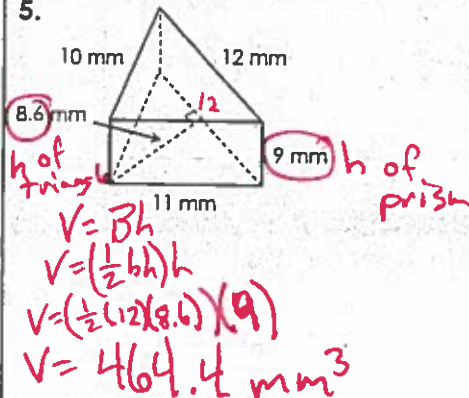


$$V = Bh$$

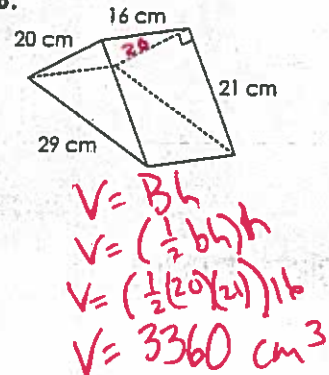
$B$  = area of the base  
 $h$  = height between bases

Find the volume of each prism.

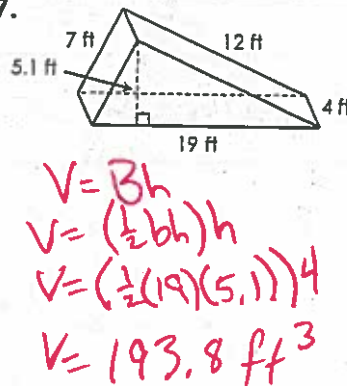
5.



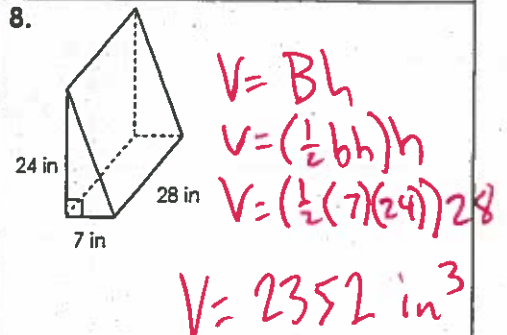
6.

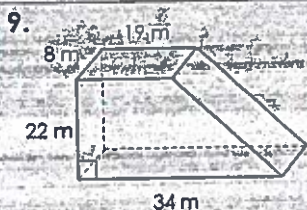


7.



8.



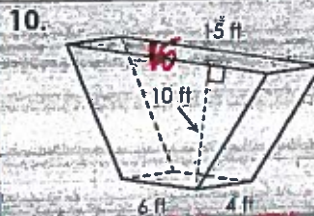


$$V = Bh$$

$$V = \left(\frac{1}{2}(b_1 + b_2)h\right)l$$

$$V = \left(\frac{1}{2}(19 + 34)22\right)8$$

$$V = 4664 \text{ m}^3$$



$$V = Bh$$

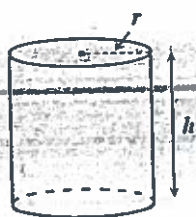
$$V = \left(\frac{1}{2}(b_1 + b_2)h\right)l$$

$$V = \left(\frac{1}{2}(6 + 15)10\right)4$$

$$V = 420 \text{ ft}^3$$

Find the volume of each cylinder. Round to the nearest tenth.

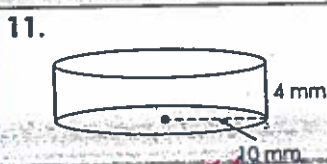
### Cylinders



$$V = \pi r^2 h$$

$r$  = radius  
 $h$  = height

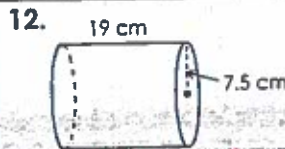
$$\frac{26}{2} = 13$$



$$V = \pi r^2 h$$

$$V = \pi(4)^2(10)$$

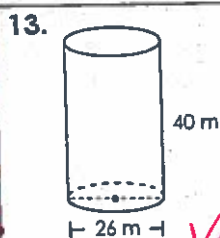
$$V = 502.7 \text{ mm}^3$$



$$V = \pi r^2 h$$

$$V = \pi(7.5)^2(19)$$

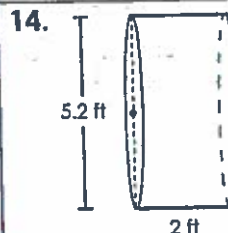
$$V = 3357.6 \text{ cm}^3$$



$$V = \pi r^2 h$$

$$V = \pi(13)^2(40)$$

$$V = 21237.2 \text{ m}^3$$



$$V = \pi r^2 h$$

$$V = \pi(2.6)^2 2$$

$$\frac{5.2}{2} = 2.6 \quad V = 42.5 \text{ ft}^3$$

### Applications

15. Find the height of a cylinder with a radius of 4 inches and a volume of 301.6 cubic inches.

$$V = \pi r^2 h$$

$$301.6 = \pi(4)^2 h$$

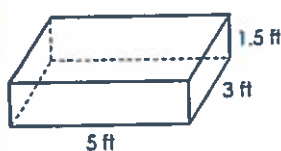
$$301.6 = 16\pi h$$

$$\frac{301.6}{16} = \frac{16\pi h}{16}$$

$$18.85 = \pi h$$

$$h = 6 \text{ in}$$

16. Mr. Adams wants to fill his sandbox with sand. If one bag of sand fills five cubic feet, how many bags will he need to buy?



$$V = lwh$$

$$V = 5(3)(1.5)$$

$$V = 15(1.5)$$

$$V = 22.5 \text{ ft}^3$$

$$5 \overline{) 22.5}$$

$$\underline{20}$$

$$2.5$$

$$\underline{2.5}$$

$$0$$

5 bags