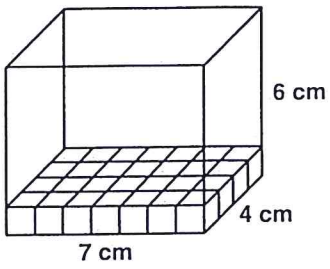
Name _____ Class _____ Date _____

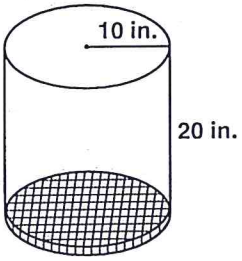
Reteaching 8-9

Volumes of Rectangular Prisms and Cylinders

The **volume** of a three-dimensional figure is the number of cubic units needed to fill the space inside the figure. A **cubic unit** is a cube whose edges are 1 unit long. You can find the volume of a prism or a cylinder by finding the *area of the base* (B) and multiplying by the *height* (h). Use $\pi = 3.14$.



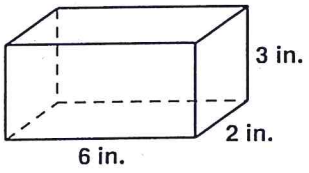
$B = lw$
$B = 7 \cdot 4 = 28 \text{ cm}^2$
$V = Bh$
$V = 28 \cdot 6 = 168 \text{ cm}^3$
The volume is 168 cubic centimeters.



$B = \pi r^2$
$B = 3.14 \cdot 10 \cdot 10 = 314 \text{ in.}^2$
$V = Bh$
$V = 3.14 \cdot 20 = 6{,}280 \text{ in.}^3$
The volume is 6,280 cubic inches.

Complete to find the volume to the nearest tenth of a unit.

1.

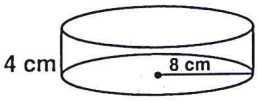


$V = Bh = lwh$

$= \_\_\_\_ \cdot \_\_\_\_ \cdot \_\_\_\_$

$= \_\_\_\_$

2.



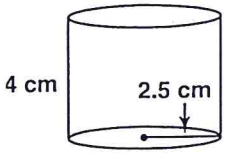
$V = Bh = \pi r^2 h$

$= 3.14 \cdot \_\_\_\_ \cdot \_\_\_\_ \cdot \_\_\_\_$

$= \_\_\_\_$

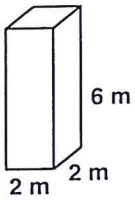
Find the volume. Round to the nearest cubic unit.

3.



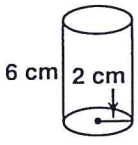
_____

4.



_____

5.



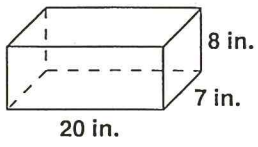
_____

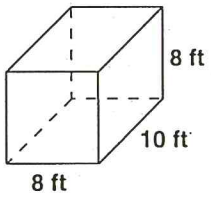
Name _____ Class _____ Date _____

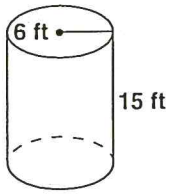
Practice 8-9

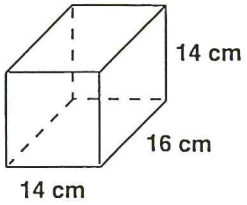
Volumes of Rectanglar Prisms and Cylinders

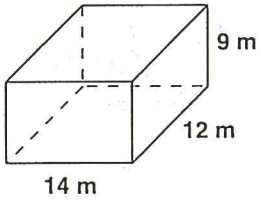
Find each volume. Round to the nearest cubic unit.

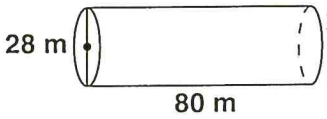
1. 

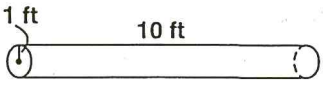
2. 

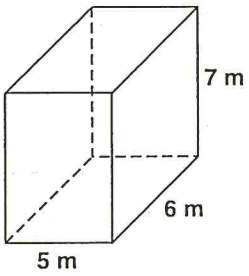
3. 

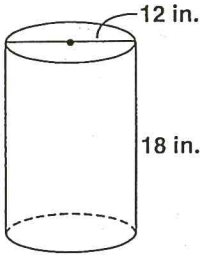
4. 

5. 

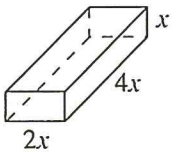
6. 

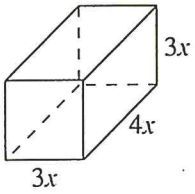
7. 

8. 

9. 

Find the volume of each rectangular prism.

10. 

11. 

Find the height of each rectangular prism given the volume, length, and width.

12. $V = 122{,}500\ \text{cm}^3$
$l = 50\ \text{cm}$
$w = 35\ \text{cm}$

13. $V = 22.05\ \text{ft}^3$
$l = 3.5\ \text{ft}$
$w = 4.2\ \text{ft}$

14. $V = 3{,}375\ \text{m}^3$
$l = 15\ \text{m}$
$w = 15\ \text{m}$