

**UNDERSTAND VOLUME**

Use the rectangular prism to solve the problem.

1. What is the volume of the rectangular prism?

Use the formula  $V = Bh$ .

The  $B$  in  $V = Bh$  represents the area of the base, or length  $\times$  width.

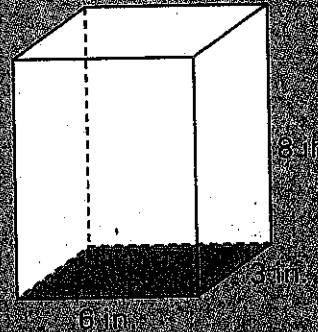
$V = Bh$

$V = l \times w \times h$

$V = 6 \text{ in.} \times 6 \text{ in.} \times 8 \text{ in.}$

$V = \underline{\hspace{2cm}} \text{ in.}^3$

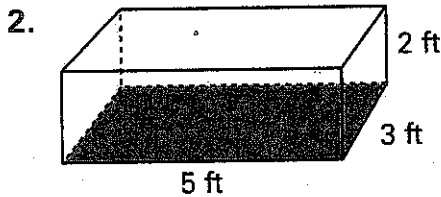
**Solution:** The volume of the rectangular prism is 288 cubic inches.



Let's solve this together.



Find the volume of each rectangular prism. Fill in the blanks.



length ( $l$ ) = \_\_\_\_\_

width ( $w$ ) = \_\_\_\_\_

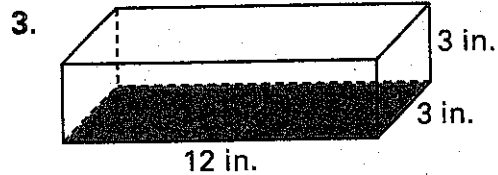
height ( $h$ ) = \_\_\_\_\_

$V = Bh$

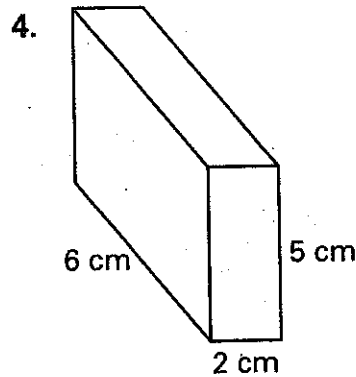
$V = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times h$

$V = \underline{\hspace{1cm}} \times \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$

$V = \underline{\hspace{2cm}} \text{ ft}^3$



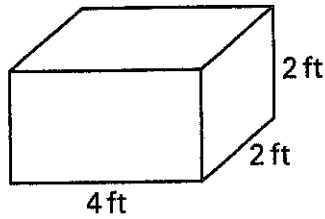
$V = \underline{\hspace{2cm}} \text{ in.}^3$



$V = \underline{\hspace{2cm}}$

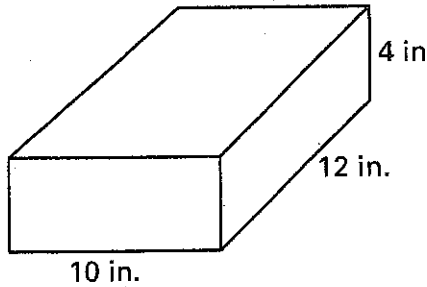
Solve each problem. Choose the best answer.

5. Mary has a terrarium that is shaped like a rectangular prism. What is the volume of her terrarium?



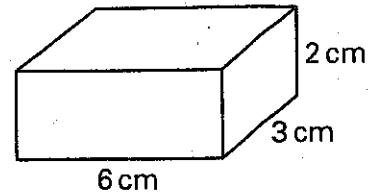
- (A)  $8 \text{ ft}^3$                       (C)  $16 \text{ ft}^3$   
 (B)  $10 \text{ ft}^3$                       (D)  $40 \text{ ft}^3$

6. What is the volume of this rectangular prism?



- (A)  $160 \text{ in.}^3$                       (C)  $416 \text{ in.}^3$   
 (B)  $208 \text{ in.}^3$                       (D)  $480 \text{ in.}^3$

7. What is the volume of this prism?



- (A)  $11 \text{ cm}^3$                       (C)  $20 \text{ cm}^3$   
 (B)  $16 \text{ cm}^3$                       (D)  $36 \text{ cm}^3$

8. A room is 5 meters long, 4 meters wide, and 3 meters high. What is the volume of the room?

- (A)  $12 \text{ m}^3$                       (C)  $30 \text{ m}^3$   
 (B)  $23 \text{ m}^3$                       (D)  $60 \text{ m}^3$

9. A cracker box is 5 inches long, 2 inches wide, and 8 inches high. What is the volume of the box?

- (A)  $40 \text{ in.}^3$                       (C)  $80 \text{ in.}^3$   
 (B)  $74 \text{ in.}^3$                       (D)  $172 \text{ in.}^3$

Connections

Extra Challenge

10. For this activity, you need a ruler and a pencil. Make a chart of everyday rectangular prisms.

- Find examples of rectangular prisms around you. Write the name of each prism in the chart.
- Measure and record the dimensions of at least two examples.
- Find and record the volumes of each prism.

Name of Rectangular Prism	Dimensions ( $l \times w \times h$ )	Volume