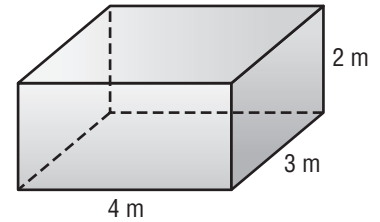
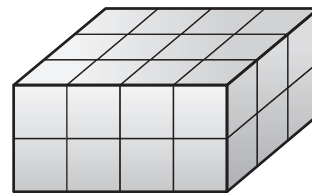
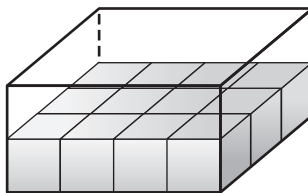


# Lesson 4 Volume of Prisms

The **volume** of a three-dimensional shape is the measure of space occupied by it. It is measured in cubic units such as cubic centimeters ( $\text{cm}^3$ ) or cubic inches ( $\text{in}^3$ ). The volume of the shape at the right can be shown using cubes.



The bottom layer, or base, has  $4 \cdot 3$  or 12 cubes.



There are two layers.

It takes  $12 \cdot 2$  or 24 cubes to **fill** the box. So, the volume of the box is 24 cubic meters.

A **rectangular prism** is a three-dimensional shape that has two parallel and congruent sides, or bases, that are rectangles. To find the volume of a rectangular prism, multiply the area of the base times the height, or find the product of the length  $\ell$ , the width  $w$ , and the height  $h$ .

$$V = Bh \text{ or } V = \ell wh$$

## Example

**Find the volume of the rectangular prism.**

$$V = \ell wh$$

Volume of a rectangular prism

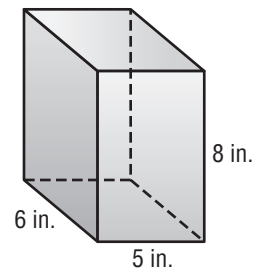
$$V = 5 \cdot 6 \cdot 8$$

Replace  $\ell$  with 5,  $w$  with 6, and  $h$  with 8.

$$V = 240$$

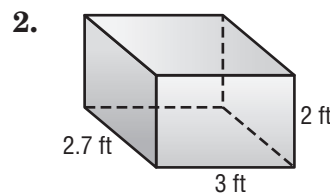
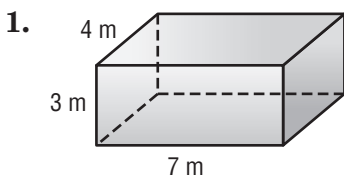
Multiply.

The volume is 240 cubic inches.



## Exercises

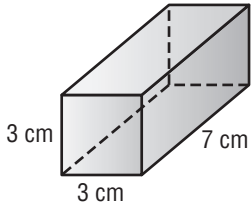
**Find the volume and Surface Area of each prism. Round to the nearest tenth if necessary.**



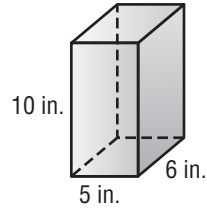
# Lesson 4 Skills Practice - Volume and Surface Area of Prisms

Find the volume and Surface Area of each prism. Round to the nearest tenth if necessary.

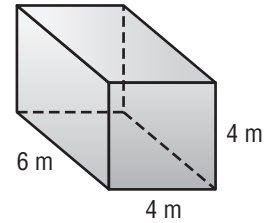
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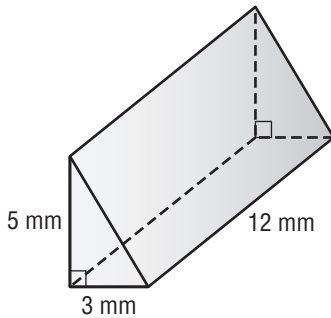
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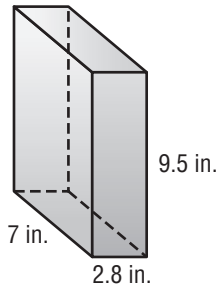
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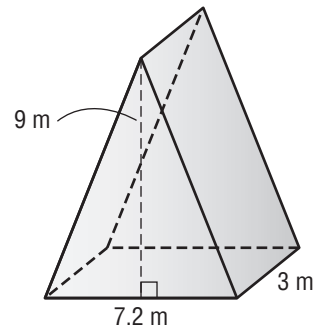
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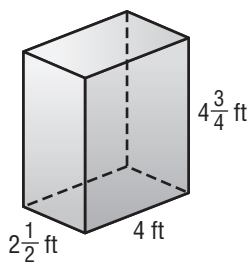
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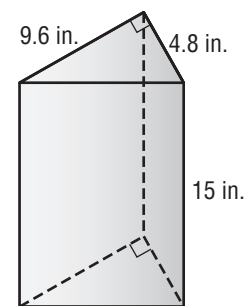
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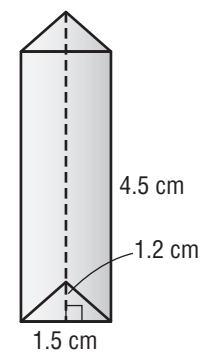
7.



8.



9.



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