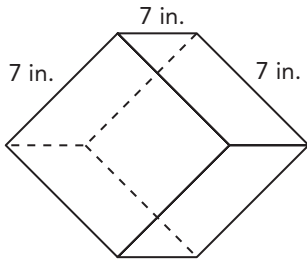


Lesson 12.3 Volume of Prisms

Find the volume of each rectangular prism.

1.

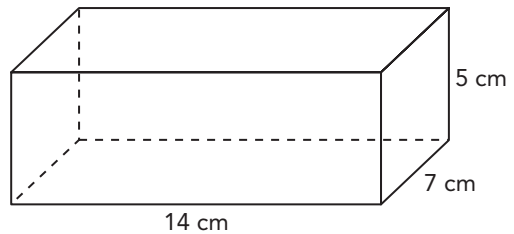


Volume

$$= \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$= \underline{\quad} \text{ in.}^3$$

2.



Volume

$$= \underline{\quad} \times \underline{\quad} \times \underline{\quad}$$

$$= \underline{\quad} \text{ cm}^3$$

Example

A rectangular prism measures $5\frac{1}{2}$ inches by 4.2 inches by $3\frac{3}{4}$ inches.
Find the volume of the prism.

$$\text{Length} = \underline{5\frac{1}{2}} \text{ in.}$$

$$\text{Width} = \underline{4.2} \text{ in.}$$

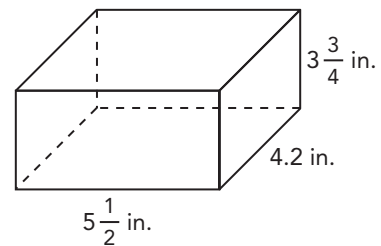
$$\text{Height} = \underline{3\frac{3}{4}} \text{ in.}$$

$$\text{Volume} = \ell wh$$

$$= \underline{5\frac{1}{2}} \times \underline{4.2} \times \underline{3\frac{3}{4}}$$

$$= \underline{86\frac{5}{8}} \text{ in.}^3$$

The volume of the prism is $\underline{86\frac{5}{8}}$ cubic inches.



The **volume** of any rectangular prism of length ℓ , width w , and height h is given by $V = \ell wh$

Name: _____

Date: _____

3. A rectangular prism measures 8 inches by $6\frac{1}{2}$ inches by 12 inches. What is the volume of the rectangular prism?

Length = _____ in.

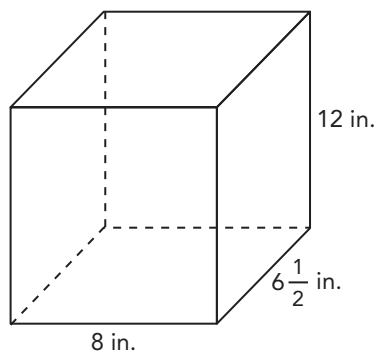
Width = _____ in.

Height = _____ in.

Volume = lwh

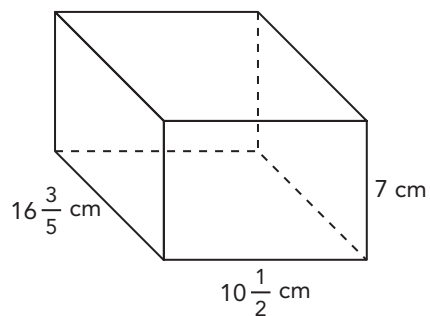
= _____ \times _____ \times _____

= _____ in.³

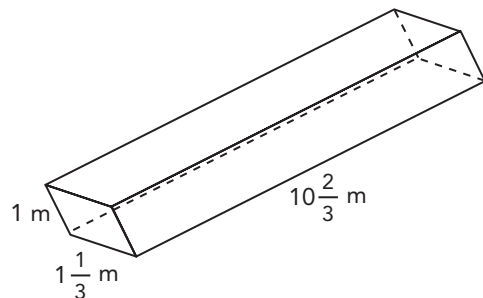


The volume of the rectangular prism is _____ cubic inches.

4.

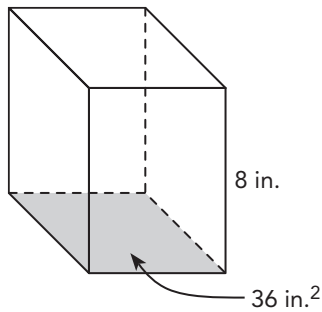


5.



Find the volume of each prism.*Example*

The prism shown has bases that are squares. The area of a base is 36 square inches. The height of the prism is 8 inches. Find the volume of the prism.



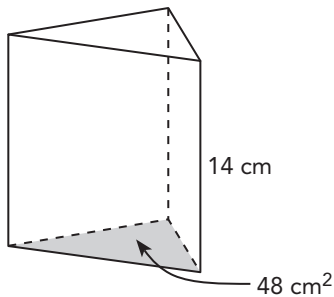
$$\text{Volume} = \text{area of base} \cdot \text{height}$$

$$= \underline{36} \cdot \underline{8}$$

$$= \underline{288} \text{ in.}^3$$

The volume of the prism is 288 cubic inches.

- 10.** The prism shown has bases that are triangles. The area of a base is 48 square centimeters. The height of the prism is 14 centimeters. Find the volume of the prism.



$$\text{Volume} = \text{area of base} \cdot \text{height}$$

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

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

The volume of the prism is

 cubic centimeters.

- 11.** The prism shown has bases that are rectangles. The area of a base is 300 square feet. The height of the prism is 12 feet. Find the volume of the prism.

