

Volume of Rectangular Prisms

(pages 498–501)

A **rectangular prism** is a solid figure that has three sets of parallel congruent sides shaped like rectangles. The **volume** of a solid figure is the measure of the space it occupies. You can find the volume of a rectangular prism with the following formula.

Volume of a Rectangular Prism	Find the volume (V) of a rectangular prism by multiplying the length (ℓ), the width (w), and the height (h). $V = \ell wh$
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EXAMPLE

What is the volume of a rectangular prism with a length of 7 meters, a width of 4 meters, and a height of 10 meters?

$$V = \ell wh$$

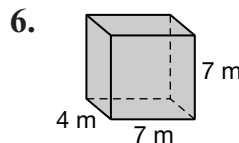
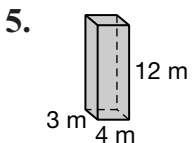
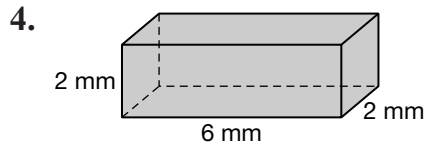
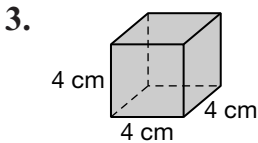
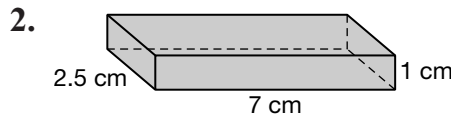
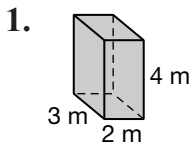
$$V = 7 \times 4 \times 10 \quad \text{Substitute the values for the length, width, and height.}$$

$$V = 280$$


The volume is 280 cubic meters.

PRACTICE

Find the volume of each rectangular prism to the nearest tenth.



7. **Hobbies** The height of a fish tank is 10 inches and the base measures 20 inches by 12 inches. What volume of water can the tank hold when full?

 8. **Standardized Test Practice** A 50-pound bag of peanuts is 2 feet by 4 feet by 1 foot. If a 50-cubic-foot space is available for storing the bags, how many can be stored?

A 5

B 6

C 7

D 8

Answers: 1. 24 m³ 2. 17.5 cm³ 3. 64 cm³ 4. 24 mm³ 5. 144 m³ 6. 196 m³ 7. 2,400 in³ 8. B