

Name _____ Date _____

Volume of Rectangular Prisms

(pages 418–420)

The amount of space inside a three-dimensional figure is called its **volume**.
Volume is expressed in cubic units.

<p>Finding the Volume of a Rectangular Prism</p>	<p>The volume (V) of a rectangular prism equals the product of its length (ℓ), its width (w), and its height (h). $V = \ell wh$</p>	
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EXAMPLES

A Find the volume of a rectangular prism that is 8 by 9 by 7 inches.

$V = \ell wh$ *Write the formula.*
 $V = 8(9)(7)$ *Substitute the values you know.*
 $V = 504 \text{ in}^3$ *Multiply to find the volume.*

B A cereal box is 29 cm tall and its top measures 7 cm by 20 cm. Find the volume.

$V = \ell wh$ *Write the formula.*
 $V = 20(7)(29)$ *Substitute the values you know.*
 $V = 4,060 \text{ cm}^3$ *Multiply to find the volume.*

Try These Together

1. What is the volume of a storage shed 7 feet high with a floor that is 10 feet by 9 feet?

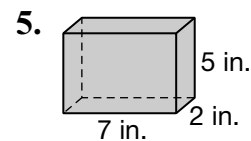
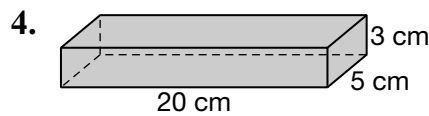
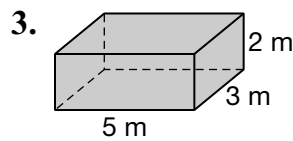
HINT: Do you know the length, width, and height?

2. A rectangular prism has a height of 2 yards, a width of 0.6 yards, and a length of 1.4 yards. Find the volume.

HINT: Write the formula and substitute.

PRACTICE

Find the volume of each rectangular prism.



6. What is the volume of a rectangular prism that 12 mm high, 10 mm wide, and 18 mm long?

7. **Hobbies** Mr. Maki is building a new flower bed. The bed is 3 feet wide, 10 feet long, and 1.5 feet deep. How many cubic feet of dirt will he need for his new flower bed?



8. **Standardized Test Practice** Find the volume of a rectangular prism that is 5 feet wide, 8 feet tall, and 11 feet long.

- A** 55 ft^3 **B** 880 ft^3 **C** 440 ft^3 **D** 40 ft^3

Answers: 1. 630 ft^3 2. 1.68 yd^3 3. 30 m^3 4. 300 cm^3 5. 70 in^3 6. $2,160 \text{ mm}^3$ 7. 45 ft^3 8. C