

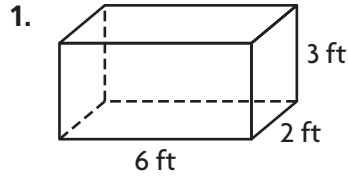
Name \_\_\_\_\_

**Apply Volume Formulas**



**COMMON CORE STANDARDS—5.MD.5b**  
*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

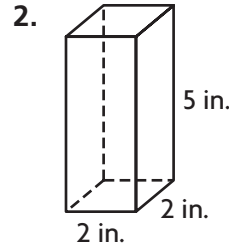
**Find the volume.**



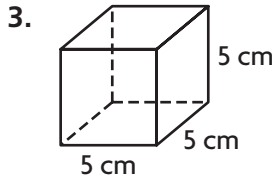
$$V = \underline{l} \times \underline{w} \times \underline{h}$$

$$V = \underline{6} \times \underline{2} \times \underline{3}$$

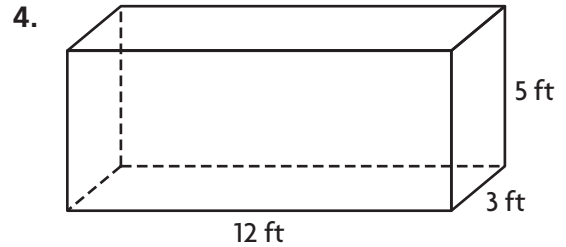
$$V = \underline{36 \text{ ft}^3}$$



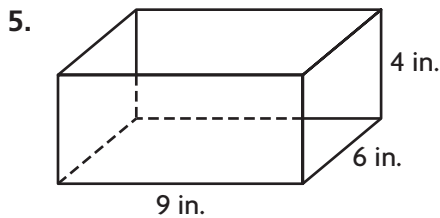
$V = \underline{\hspace{2cm}}$



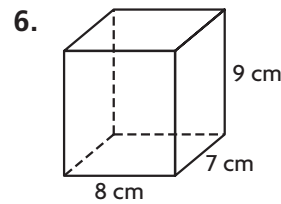
$V = \underline{\hspace{2cm}}$



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



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



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

**Problem Solving**



7. A construction company is digging a hole for a swimming pool. The hole will be 12 yards long, 7 yards wide, and 3 yards deep. How many cubic yards of dirt will the company need to remove?

\_\_\_\_\_

8. Amy rents a storage room that is 15 feet long, 5 feet wide, and 8 feet. What is the volume of the storage room?

\_\_\_\_\_

## Lesson Check (5.MD.5b)

- Sayed is buying a crate for his puppy. The crate is 20 inches long, 13 inches wide, and 16 inches high. What is the volume of the crate?
- Brittany has a gift box in the shape of a cube. Each side of the box measures 15 centimeters. What is volume of the gift box?

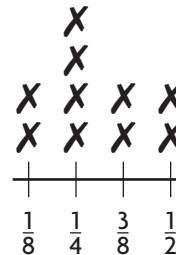
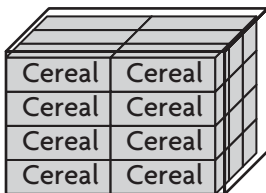
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## Spiral Review (5.MD.1, MD.2, 5.MD.3a, 5.MD.4)

- Max packs cereal boxes into a larger box. The volume of each cereal box is 175 cubic inches. What is the approximate volume of the large box?
- In health class, students record the weights of the sandwiches they have for lunch. The weights are shown in the line plot below. What is the average weight of one sandwich?



Weights of Sandwiches  
(in pounds)

- Chloe has 20 unit cubes. How many different rectangular prisms can she build with the cubes?
- Darnell went to the movies with his friends. The movie started at 2:35 p.m. and lasted 1 hour 45 minutes. What time did the movie end?

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Name \_\_\_\_\_

**Problem Solving • Compare Volumes**



**COMMON CORE STANDARD—5.MD.5b**  
*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

**Make a table to help you solve each problem.**

1. Amita wants to make a mold for a candle. She wants the shape of the candle to be a rectangular prism with a volume of exactly 28 cubic centimeters. She wants the sides to be in whole centimeters. How many different molds can she make?

10 molds

2. Amita decides that she wants the molds to have a square base. How many of the possible molds can she use?

3. Raymond wants to make a box that has a volume of 360 cubic inches. He wants the height to be 10 inches and the other two dimensions to be whole numbers of inches. How many different-sized boxes can he make?

4. Jeff put a small box that is 12 inches long, 8 inches wide, and 4 inches tall inside a box that is 20 inches long, 15 inches wide, and 9 inches high. How much space is left in the larger box?

5. Mrs. Nelson has a rectangular flower box that is 5 feet long and 2 feet tall. She wants the width of the box to be no more than 5 feet. If the width is a whole number, what are the possible volumes for the flower box?

6. Sophina bought 3 yards of trim to put around a rectangular scarf. She wants the width of the scarf to be a whole number that is at least 6 inches and at most 12 inches. If she uses all the trim, what are the possible dimensions of her scarf? Write your answers in inches.

## Lesson Check (5.MD.5b)

1. Corey bought a container shaped like a rectangular prism to hold his photo collection. If the container's dimensions are 6 in. by 8 in. by 10 in., what is its volume?
2. Aleka has a box for keepsakes that has a volume of 576 cubic inches. The length of the box is 12 inches and the width is 8 inches. What is the height of the box?

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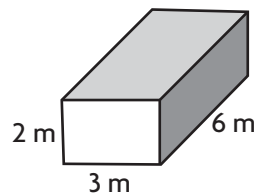
## Spiral Review (5.MD.1, 5.MD.3, 5.MD.5a, 5.MD.5b)

3. A movie is 2 hours and 28 minutes long. It starts at 7:50 P.M. At what time will the movie end?
4. How many rectangular faces does a pentagonal pyramid have?

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5. An aquarium is in the shape of a rectangular prism. Its length is 24 inches, its width is 12 inches, and its height is 14 inches. How much water can the aquarium hold?
6. What is the volume of the rectangular prism shown?



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Name \_\_\_\_\_

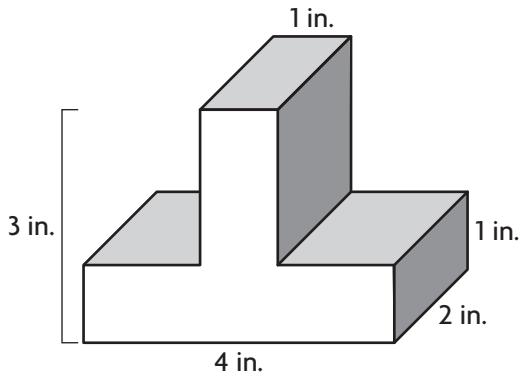
## Find Volume of Composed Figures



**COMMON CORE STANDARD—5.MD.5C**  
*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

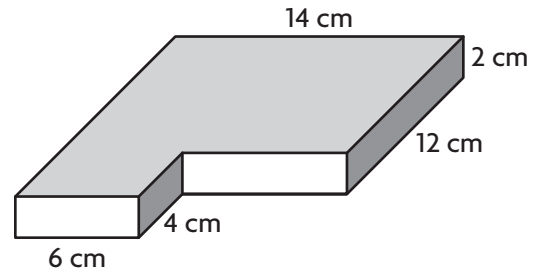
Find the volume of the composite figure.

1.



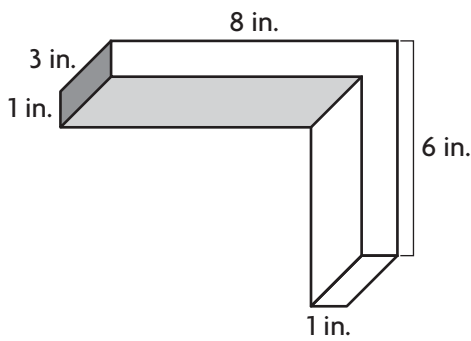
$V =$  \_\_\_\_\_

2.



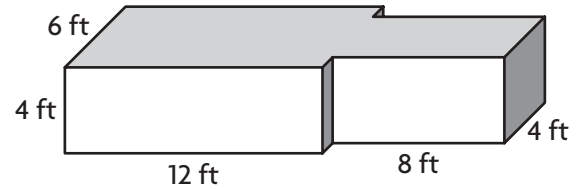
$V =$  \_\_\_\_\_

3.



$V =$  \_\_\_\_\_

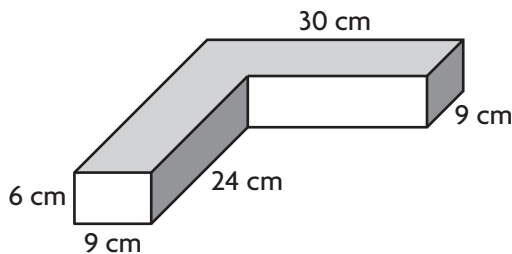
4.



$V =$  \_\_\_\_\_

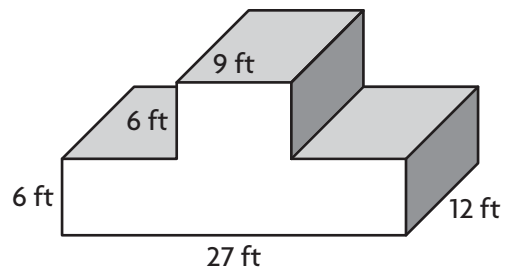
## Problem Solving

5. As part of her shop class, Jules made the figure below out of pieces of wood. How much space does the figure she made take up?



\_\_\_\_\_

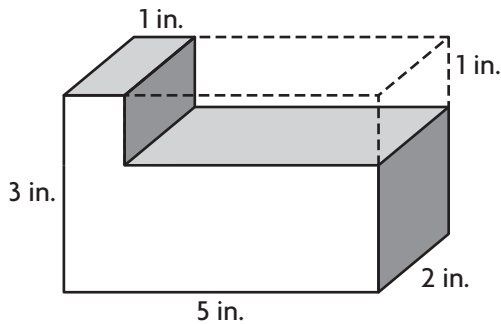
6. What is the volume of the composite figure below?



\_\_\_\_\_

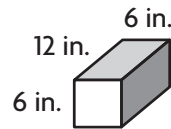
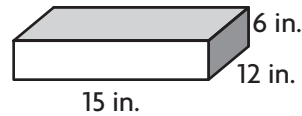
## Lesson Check (5.MD.5c)

1. Write an expression to represent the volume of the composite figure.




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2. Suppose you take the small prism and stack it on top of the larger prism. What will be the volume of the composite figure?



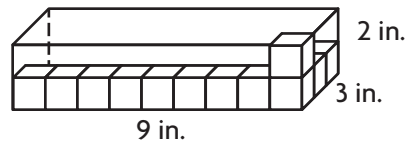

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## Spiral Review (5.NF.6, 5.NF.7c, 5.MD.5a, 5.MD.5b)

3. Jesse wants to build a wooden chest with a volume of 8,100 cubic inches. The length will be 30 inches and the width will be 15 inches. How tall will Jesse's chest be?

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4. What is the volume of the rectangular prism?




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5. Adrian's recipe for cranberry relish calls for  $1\frac{3}{4}$  cups of sugar. He wants to use  $\frac{1}{2}$  that amount. How much sugar should he use?

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6. Joanna has a board that is 6 feet long. She cuts it into pieces that are each  $\frac{1}{4}$  foot long. Write an equation to represent the number of pieces she cut.

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