

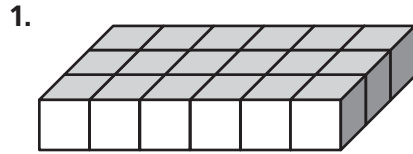
Name \_\_\_\_\_

## Unit Cubes and Solid Figures

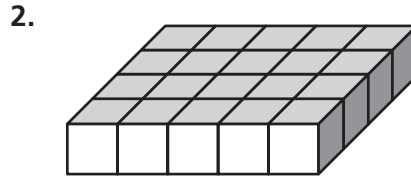


**COMMON CORE STANDARD—5.MD.3a**  
*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

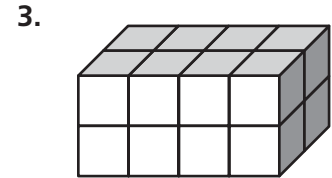
Count the number of cubes used to build each solid figure.



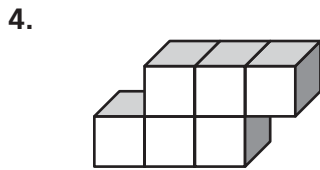
18 unit cubes



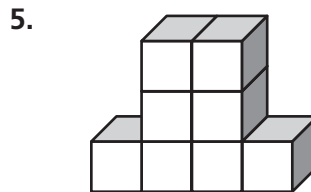
\_\_\_\_\_ unit cubes



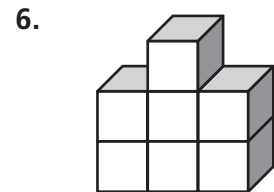
\_\_\_\_\_ unit cubes



\_\_\_\_\_ unit cubes

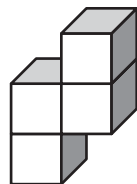
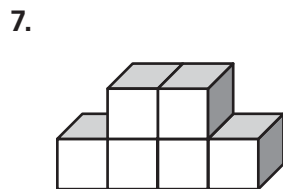


\_\_\_\_\_ unit cubes

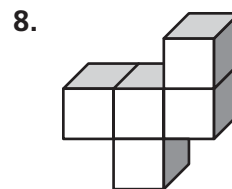


\_\_\_\_\_ unit cubes

Compare the number of unit cubes in each solid figure. Use  $<$ ,  $>$ , or  $=$ .



\_\_\_\_\_ unit cubes ○ \_\_\_\_\_ unit cubes



\_\_\_\_\_ unit cubes ○ \_\_\_\_\_ unit cubes

### Problem Solving



9. A carton can hold 1,000 unit cubes that measure 1 inch by 1 inch by 1 inch. Describe the dimensions of the carton using unit cubes.

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

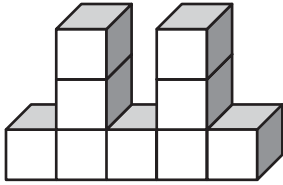
\_\_\_\_\_

10. Peter uses unit cubes to build a figure in the shape of the letter X. What is the fewest unit cubes that Peter can use to build the figure?

\_\_\_\_\_

## Lesson Check (5.MD.3a)

1. Cala stacked some blocks to make the figure below. How many blocks are in Cala's figure?



2. Quentin has 18 unit cubes. How many different rectangular prisms can he build if he uses all of the cubes?

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

3. In what shape are the lateral faces of a pyramid?
4. The Arnold family arrived at the beach at 10:30 A.M. They spent  $3\frac{3}{4}$  hours there. What time did they leave the beach?

5. Complete the following statement. Write *sometimes*, *always*, or *never*.
6. The tire on Frank's bike moves 75 inches in one rotation. How many rotations will the tire have made after Frank rides 50 feet?

The opposite sides of a parallelogram  
are \_\_\_\_\_ congruent.

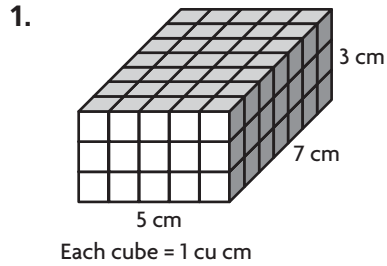
Name \_\_\_\_\_

## Understand Volume

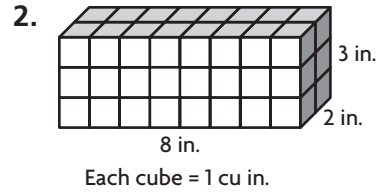


**COMMON CORE STANDARDS—5.MD.3b, 5.MD.4** *Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

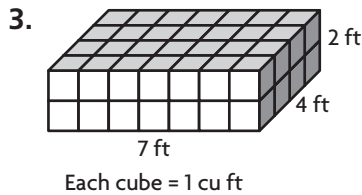
Use the unit given. Find the volume.



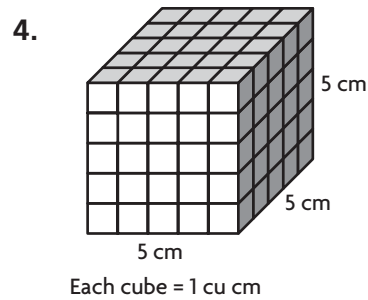
Volume = 105 cu cm



Volume = \_\_\_\_\_ cu \_\_\_\_\_

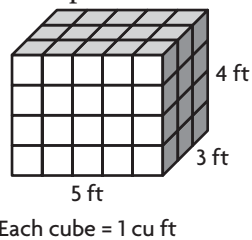


Volume = \_\_\_\_\_ cu \_\_\_\_\_

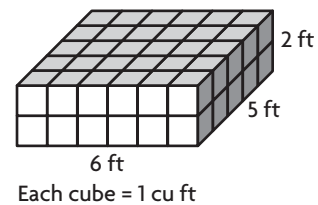


Volume = \_\_\_\_\_ cu \_\_\_\_\_

5. Compare the volumes. Write  $<$ ,  $>$ , or  $=$ .



\_\_\_\_\_ cu ft  \_\_\_\_\_ cu ft



## Problem Solving



6. A manufacturer ships its product in boxes with edges of 4 inches. If 12 boxes are put in a carton and completely fill the carton, what is the volume of the carton?

\_\_\_\_\_

\_\_\_\_\_

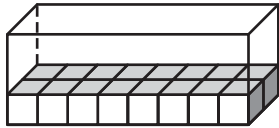
7. Matt and Mindy each built a rectangular prism that has a length of 5 units, a width of 2 units, and a height of 4 units. Matt used cubes that are 1 cm on each side. Mindy used cubes that are 1 in. on each side. What is the volume of each prism?

\_\_\_\_\_

\_\_\_\_\_

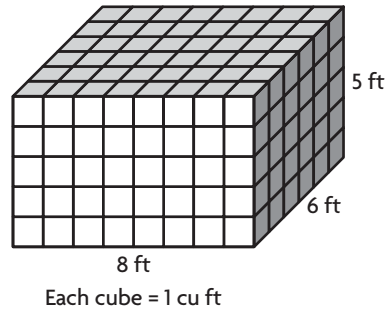
## Lesson Check (5.MD.3b, 5.MD.4)

1. Elena packed 48 cubes into this box. Each cube has edges that are 1 centimeter. How many layers of cubes did Elena make?




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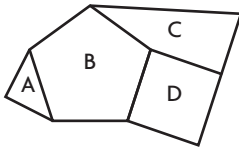
2. What is the volume of the rectangular prism?




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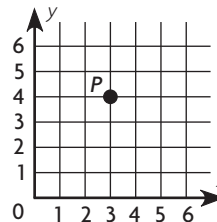
## Spiral Review (5.MD.1, 5.G.1, 5.G.3, 5.G.4)

3. Juan made a design with polygons. Which polygon in Juan's design is a pentagon?




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4. What ordered pair describes the location of point  $P$ ?




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5. What is the least number of acute angles that a triangle can have?

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6. Karen bought 3 pounds of cheese to serve at a picnic. How many ounces of cheese did Karen buy?

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Name \_\_\_\_\_

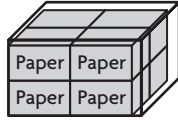
## Estimate Volume



**COMMON CORE STANDARD—5.MD.4**  
*Geometric measurement: understand concepts of volume and relate volume to multiplication and to addition.*

### Estimate the volume.

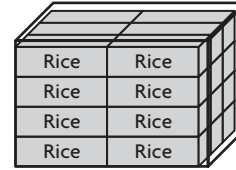
1. Volume of package of paper: 200 cu in.



**Think:** Each package of paper has a volume of 200 cu in. There are 8 packages of paper in the larger box. So, the volume of the large box is about 8 × 200, or 1,600 cubic inches.

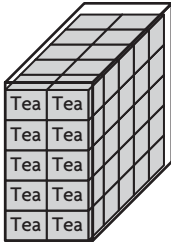
Volume of large box: 1,600 cu in.

2. Volume of rice box: 500 cu cm



Volume of large box: \_\_\_\_\_

3. Volume of tea box: 40 cu in.



Volume of large box: \_\_\_\_\_

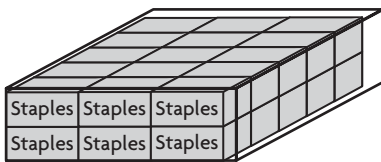
4. Volume of DVD case: 20 cu in.



Volume of large box: \_\_\_\_\_

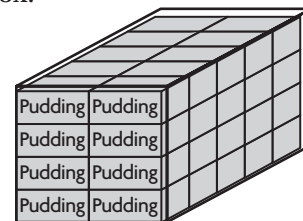
## Problem Solving

5. Theo fills a large box with boxes of staples. The volume of each box of staples is 120 cu cm. Estimate the volume of the large box.



\_\_\_\_\_

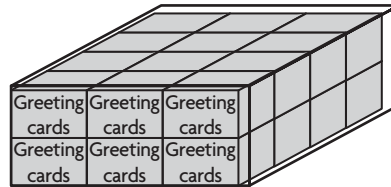
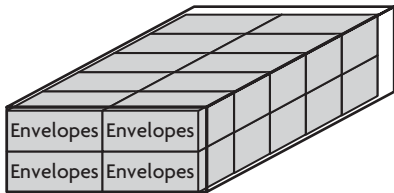
6. Lisa uses pudding boxes to estimate the volume of the box below. The volume of each pudding box is 150 cu in. Estimate the volume of the large box.



\_\_\_\_\_

## Lesson Check (5.MD.4)

1. Melanie packs boxes of envelopes into a larger box. The volume of each box of envelopes is 1,200 cubic centimeters. What is the approximate volume of the large box?
2. Calvin packs boxes of greeting cards into a larger box. The volume of each box of greeting cards is 90 cubic inches. What is the approximate volume of the large box?

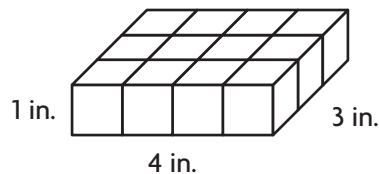


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## Spiral Review (5.MD.1, 5.MD.3a, 5.MD.3b, 5.MD.4)

3. Rosa has 16 unit cubes. How many different rectangular prisms can she build with the cubes?
4. Each cube represents 1 cubic inch. What is the volume of the prism?



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5. A certain aquarium holds 20 gallons of water. How many quarts of water does the aquarium hold?
6. Monique ran in a 5-kilometer race. How many meters did Monique run?

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Name \_\_\_\_\_

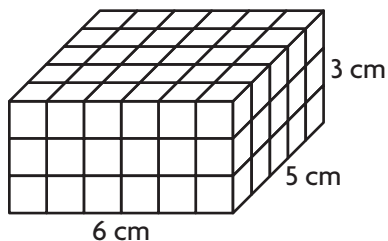
## Volume of Rectangular Prisms



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

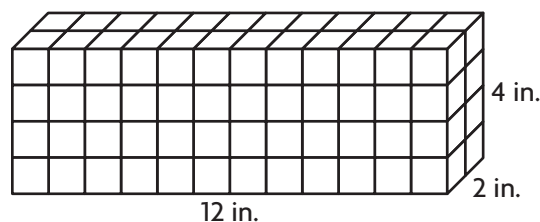
Find the volume.

1.



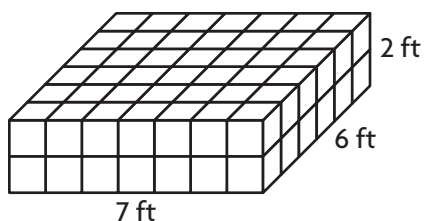
Volume: 90 cm<sup>3</sup>

2.



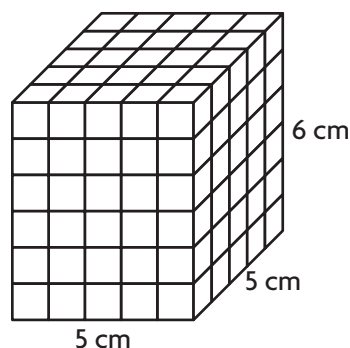
Volume: \_\_\_\_\_

3.



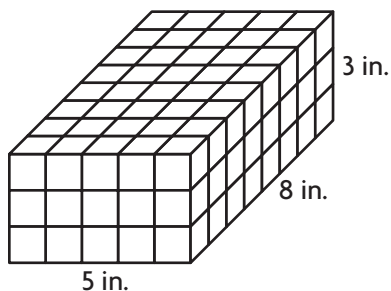
Volume: \_\_\_\_\_

4.



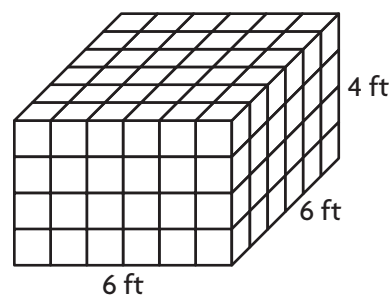
Volume: \_\_\_\_\_

5.



Volume: \_\_\_\_\_

6.



Volume: \_\_\_\_\_

### Problem Solving



7. Aaron keeps his baseball cards in a cardboard box that is 12 inches long, 8 inches wide, and 3 inches high. What is the volume of this box?

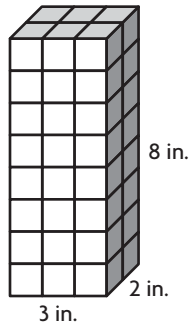
\_\_\_\_\_

8. Amanda's jewelry box is in the shape of a cube that has 6-inch edges. What is the volume of Amanda's jewelry box?

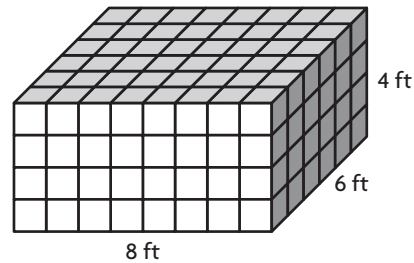
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## Lesson Check (5.MD.5a)

1. Laini uses 1-inch cubes to build the box shown below. What is the volume of the box?

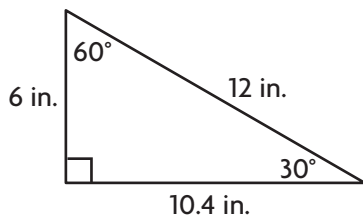


2. Mason stacked 1-foot cube-shaped boxes in a warehouse. What is the volume of the stack of boxes?



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

3. What type of triangle is shown below?



4. What quadrilateral always has 4 congruent angles and opposite sides that are congruent and parallel?

5. Suzanne is 64 inches tall. What is Suzanne's height in feet and inches?

6. Trevor bought 8 gallons of paint to paint his house. He used all but 1 quart. How many quarts of paint did Trevor use?