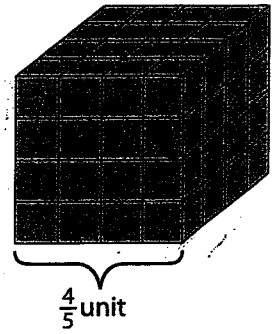
Guided Practice

HW # 56 1 - 12

The cube shown has an edge length of $\frac{4}{5}$ unit and is filled with smaller cubes. (Explore Activity)

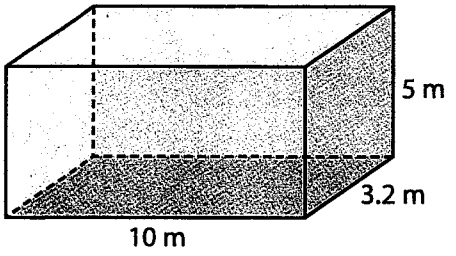


1. How many small cubes are there? _____

2. The volume of the large cube is _____ cubic unit.

Find the volume of each prism. (Example 1)

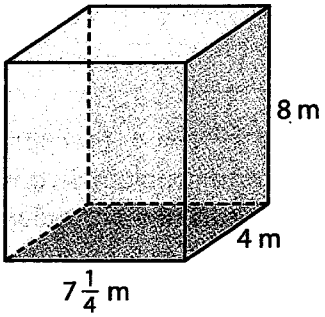
3.



$V =$ _____ × _____ × _____

$=$ _____ cubic meters

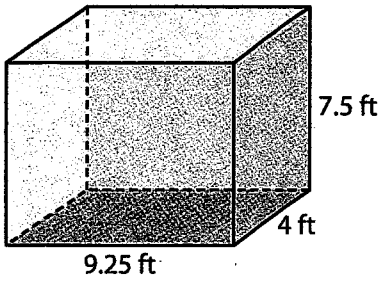
4.



$B =$ _____ × _____ $=$ _____ m^2

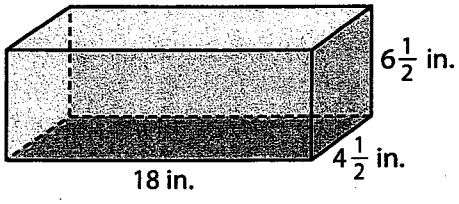
$V =$ _____ cubic meters

5.



$V =$ _____ cubic feet

6.



$V =$ _____ cubic inches

7. A cereal box is $8\frac{1}{2}$ inches long, $3\frac{1}{2}$ inches wide, and 12 inches high.

What is the volume of the box? (Example 2) _____

ESSENTIAL QUESTION

8. Which two formulas can you use to find the volume of a rectangular prism? Why are these two formulas equivalent?

_____

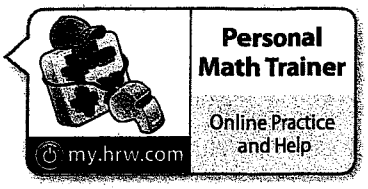
_____

_____

Name _____ Class _____ Date _____

15.2 Independent Practice

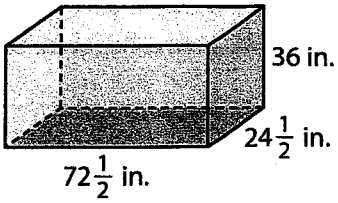
CA CC 6.G.2



9. A block of wood measures 4.5 inches by 3.5 inches by 7 inches. What is the volume of the block of wood?

_____

10. A restaurant buys a freezer in the shape of a rectangular prism. The dimensions of the freezer are shown. What is the volume of the freezer?

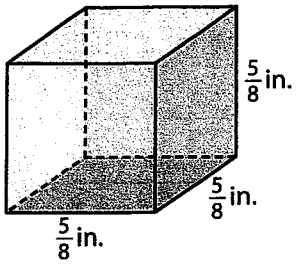


_____

11. Rectangular prism A measures 6 inches by 4 inches by 5 inches. Rectangular prism B's dimensions are twice those of prism A. Find the volume of each prism. How many times as great is prism B's volume as prism A's volume?

_____

12. A cube has the dimensions shown. What is the volume of the cube? How many smaller cubes with an edge length of $\frac{1}{8}$ inch could fit inside the cube shown?



_____

13. A company is designing a juice box. The box is in the shape of a rectangular prism. The base of the box is $6\frac{1}{2}$ inches by $2\frac{1}{2}$ inches, and the box is 4 inches high. If juice fills 90% of the box's volume, find the volume of juice in the box.

_____

14. **Science** Density is the amount of mass in a certain volume of an object. To find the density in grams per cubic centimeter of a substance you can use this relationship:

$$\text{Density} = \frac{\text{mass in grams}}{\text{volume in cubic centimeters}}$$

A gold bar that is 16 centimeters by 2.5 centimeters by 5 centimeters has a density of 19.3 grams per cubic centimeter. What is the mass of the gold bar?

_____

15. A suitcase is a rectangular prism whose dimensions are $1\frac{1}{4}$ feet by $1\frac{3}{4}$ feet by $1\frac{1}{4}$ feet. Find the volume of the suitcase.

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