

NAME

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Unit 4, Lesson 15

Practice Problems

1. A pool in the shape of a rectangular prism is being filled with water. The length and width of the pool is 24 feet and 15 feet. If the height of the water in the pool is $1\frac{1}{3}$ feet, what is the volume of the water in cubic feet?

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2. A rectangular prism measures $2\frac{2}{5}$ inches by $3\frac{1}{5}$ inches by 2 inches.

a. Priya said, "It takes more cubes with edge length $\frac{2}{5}$ inch than cubes with edge length $\frac{1}{5}$ inch to pack the prism." Do you agree with Priya's statement? Explain or show your reasoning.

b. How many cubes with edge length $\frac{1}{5}$ inch fit in the prism? Show your reasoning.

c. Explain how you can use your answer in the previous question to find the volume of the prism in cubic inches.

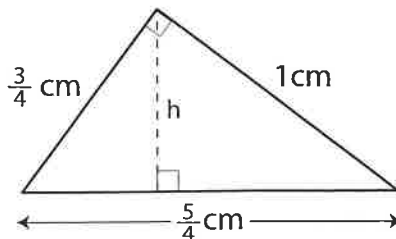
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3. a. Here is a right triangle. What is its area?

$$b \cdot h \cdot \frac{1}{2}$$

$$\frac{3}{4} \cdot \frac{1}{1} \cdot \frac{1}{2} = \frac{3}{8} \text{ cm}^2$$

b. What is the height h for the base that is $\frac{5}{4}$ units long? Show your reasoning.



1/2

1. substitute

$$\frac{5}{4} \cdot h \cdot \frac{1}{2} = \frac{3}{8}$$

2. do

$$\frac{5}{8} \cdot h = \frac{3}{8}$$

3. ÷

$$\frac{3}{8} \div \frac{5}{8} = h$$

KCF 4. $\frac{3}{8} \times \frac{8}{5} = \frac{24}{40} = \frac{3}{5} \text{ cm}^2$

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4. To give their animals essential minerals and nutrients, farmers and ranchers often have a block of salt—called “salt lick”—available for their animals to lick.

- a. A rancher is ordering a box of cube-shaped salt licks. The edge lengths of each salt lick are $\frac{5}{12}$ foot. Is the volume of one salt lick greater or less than 1 cubic foot? Explain your reasoning.



“Salt-lick 4 beentree” by Beentree via [Wikimedia Commons](#). CC BY-SA 2.5.

- b. The box that contains the salt lick is $1\frac{1}{4}$ feet by $1\frac{2}{3}$ feet by $\frac{5}{6}$ feet. How many cubes of salt lick fit in the box? Explain or show your reasoning.

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5. a. How many groups of $\frac{1}{3}$ inch are in $\frac{3}{4}$ inch? $\frac{3}{4} \div \frac{1}{3} = \frac{3}{4} \times \frac{3}{1} = \frac{9}{4} = 2\frac{1}{4}$ groups
- b. How many inches are in $1\frac{2}{5}$ groups of $1\frac{2}{3}$ inches?

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$1\frac{2}{5} \times 1\frac{2}{3} = \frac{7}{5} \times \frac{8}{3} = \frac{56}{15} = 3\frac{16}{15}$

6. Here is a table that shows the ratio of flour to water in an art paste. Complete the table with values in equivalent ratios.

cups of flour	cups of water
1	$\frac{1}{2}$
4	2
6	3
$\frac{1}{2}$	$\frac{1}{4}$

Think of a horizontal rule
 \rightarrow horizontal
 rule
 OR
 $\downarrow \uparrow$

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