

KEY

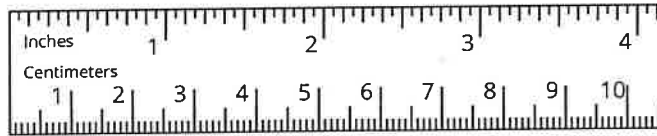
NAME _____

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1/2 Unit 4, Lesson 12: Fractional Lengths

1. One inch is around $2\frac{11}{20}$ centimeters.



a. How many centimeters long is 3 inches?

Show your reasoning.

1/3

$$2\frac{11}{20} \times 3$$

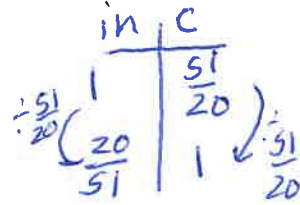
$$\frac{51}{20} \times \frac{3}{1} = \frac{153}{20} = 7\frac{13}{20}$$

b. What fraction of an inch is 1 centimeter?

Show your reasoning.

$$1 \div 2\frac{11}{20}$$

$$1 \div \frac{51}{20} = \frac{20}{51}$$



c. What question can be answered by finding $10 \div 2\frac{11}{20}$?

how many inches in 1 cm

2. A zookeeper is $6\frac{1}{4}$ feet tall. A young giraffe in his care is $9\frac{3}{8}$ feet tall.

a. How many times as tall as the zookeeper is the giraffe?

less tall

whole

$$\frac{9\frac{3}{8}}{6\frac{1}{4}} = \frac{\frac{75}{8}}{\frac{25}{4}} = \frac{75}{8} \cdot \frac{4}{25} = \frac{41}{25} = 1\frac{16}{25}$$

or

$$\frac{75}{8} \div \frac{50}{8} = \frac{75}{50} = \frac{3}{2}$$

b. What fraction of the giraffe's height is the zookeeper's height?

taller

whole

$$\frac{6\frac{1}{4}}{9\frac{3}{8}} = \frac{\frac{25}{4}}{\frac{75}{8}} = \frac{25}{4} \cdot \frac{8}{75} = \frac{2}{3}$$

$$\frac{50}{8} \div \frac{75}{8} = \frac{50}{75} = \frac{2}{3}$$

3. A rectangular bathroom floor is covered with square tiles that are $1\frac{1}{2}$ feet by $1\frac{1}{2}$ feet. The length of the bathroom floor is $10\frac{1}{2}$ feet and the width is $6\frac{1}{2}$ feet.

a. How many tiles does it take to cover the length of the floor?

1/2

$$10\frac{1}{2} \div 1\frac{1}{2}$$

$$\frac{21}{2} \div \frac{3}{2} = 7$$

b. How many tiles does it take to cover the width of the floor?

$$6\frac{1}{2} \div 1\frac{1}{2}$$

$$\frac{13}{2} \div \frac{3}{2} = \frac{13}{3} = 4\frac{1}{3}$$



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4. The Food and Drug Administration (FDA) recommends a certain amount of nutrient intake per day called the "daily value." Food labels usually show percentages of the daily values for several different nutrients—calcium, iron, vitamins, etc.

In $\frac{3}{4}$ cup of oatmeal, there is $\frac{1}{10}$ of the recommended daily value of iron. What fraction of the daily recommended value of iron is in 1 cup of oatmeal?

Write a multiplication equation and a division equation to represent the question, and then answer the question. Show your reasoning.

$\frac{1}{2}$

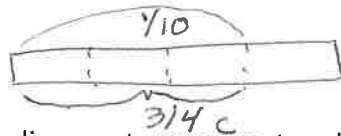
$$\frac{3}{4} \cdot ? = \frac{1}{10}$$

$$\frac{1}{10} \div \frac{3}{4} = ?$$

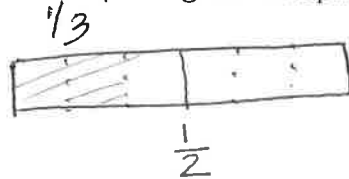
$$\frac{1}{10} \times \frac{4}{3} = \frac{4}{30} = \frac{2}{15}$$

	0	Fraction
$\div 3$	$\frac{3}{4}$	$\frac{1}{10}$
	$\frac{1}{4}$	$\frac{1}{30}$
$\times 4$	1	$\frac{4}{30}$

(from Unit 4, Lesson 11)



5. What fraction of $\frac{1}{2}$ is $\frac{1}{3}$? Draw a tape diagram to represent and answer the question. Use graph paper if needed.



$\frac{2}{3}$ of a $\frac{1}{2}$

$\frac{1}{2}$

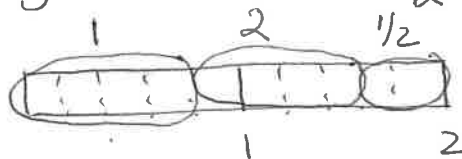
(from Unit 4, Lesson 7)

6. Noah says, "There are $2\frac{1}{2}$ groups of $\frac{4}{5}$ in 2." Do you agree with his statement? Draw a tape diagram to show your reasoning. Use graph paper, if needed.

(from Unit 4, Lesson 6)

Yes
check does $2\frac{1}{2} \cdot \frac{4}{5} = 2$

Diagram $\frac{5}{2} \cdot \frac{4}{5} = \frac{20}{10} = 2$ wholes



$\frac{1}{2}$