Set A | pages 451–456

A fraction can be written as the product of a whole number and a unit fraction. Consider the model shown below.

| $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ | $\frac{1}{8}$ |

Each fraction strip represents the unit fraction $\frac{1}{8}$.

There are 5 fraction strips in all.

So, the model represents $5 \times \frac{1}{8}$, or $\frac{5}{8}$.

Select a digital tool to solve the problems in Set A.

Remember that a unit fraction has a numerator of 1.

Write a multiplication equation with a unit fraction that describes the fraction shown. Use fraction strips to help.

1.

2.

| $\frac{1}{4}$ | $\frac{1}{4}$ |

3. $\frac{4}{5} = \Box \times \dfrac{\Box}{\Box}$

4. $\frac{7}{12} = \Box \times \dfrac{\Box}{\Box}$

Set B | pages 457–462, 463–468

Find $\frac{2}{3}$ of 6.

One Way

$\frac{1}{3}$ of 6 is 2.

$\frac{2}{3}$ is twice as much as $\frac{1}{3}$.
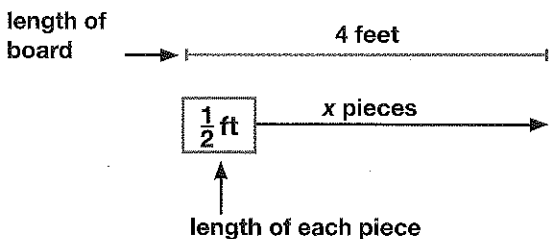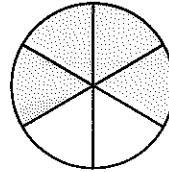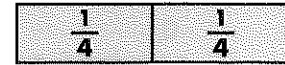
So, $\frac{2}{3}$ of 6 is 4.

Another Way

Multiply first and then divide.

$\frac{2}{3} \times 6 = \frac{12}{3} = 4$

Remember that the word *of* often means to multiply.

Find each product. Simplify, if possible.

1. $4 \times \frac{1}{2}$

2. $\frac{3}{4}$ of 16

3. $24 \times \frac{1}{8}$

4. $\frac{4}{7}$ of 28

5. $\frac{4}{5} \times 37$

6. $\frac{7}{8} \times 219$

Set C | pages 469–474

A 4-foot board is cut into pieces that are $\frac{1}{2}$ foot in length. How many pieces are there?

length of board → |⸻ 4 feet ⸻|

| $\frac{1}{2}$ ft | ⟶ x pieces ⟶

length of each piece

$4 \div \frac{1}{2} = 4 \times \frac{2}{1} = \frac{8}{1} = 8$

There are 8 pieces.

Remember that you can draw a picture or use objects such as fraction strips to help you understand the problem.

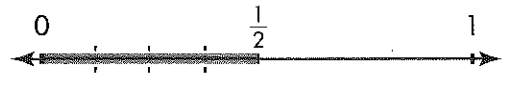1. A 12-foot-long playground is marked off into $\frac{1}{5}$-foot-long sections for a game. How many sections are there?

2. A 4-pound package of peanuts is divided into $\frac{1}{4}$-pound packages. How many $\frac{1}{4}$-pound packages will there be?

Find $\frac{1}{2} \div 4$.

Use multiplication.
Multiply by the reciprocal of the divisor.

$$\frac{1}{2} \div 4 = \frac{1}{2} \times \frac{1}{4}$$
$$= \frac{1}{8}$$

$$0 \qquad \frac{1}{2} \qquad 1$$

Remember, you can use objects or a number line to help you divide.

Remember that to write the reciprocal of a fraction, switch the numerator and denominator.

Find each quotient.

1. $\frac{1}{3} \div 2$ 2. $\frac{1}{7} \div 7$

3. $\frac{1}{2} \div 8$ 4. $\frac{1}{8} \div 2$

5. $7 \div \frac{1}{2}$ 6. $25 \div \frac{1}{6}$

7. Mr. Holms had $\frac{1}{5}$ of a carton of orange juice left. He used equal amounts of the leftover juice for two servings. What fraction of the whole carton of juice did he use for each serving?

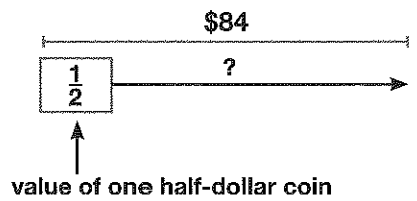Helen has $97 in quarters and half-dollars combined. She has $13 in quarters. How many half-dollars does she have?

What is the hidden question or questions?

How much does Helen have in half-dollars?

$97	
$13	?

$$\$97 - \$13 = \$84$$

How many $\frac{1}{2}$ dollars are in $84?

$$\$84$$

| $\frac{1}{2}$ | ? |

↑
value of one half-dollar coin

$$\$84 \div \frac{1}{2} = 84 \times \frac{2}{1} = 168$$

Helen has 168 half-dollars.

Remember to answer the hidden question or questions first.

1. Ana was in a charity walk. She raised $0.25 for each $\frac{1}{2}$ mile that she walked. The first day, Ana walked 11 miles. The second day, she walked 14 miles. How much money did Ana raise?

2. In Problem 1, write and solve any hidden question or questions that you need to answer first.

3. Leo has a store coupon for $0.40 off and another coupon for $0.75 off. He buys a carton of juice for $4.19 and a carton of milk for $2.89. What is his total cost after using the coupons?