

Multiplying Fractions and Whole Numbers

Name _____

Practice
11-2

Find each product.

1. $\frac{1}{4}$ of 96 = _____
2. $\frac{7}{4}$ of 28 = _____
3. $\frac{4}{3} \times 72 =$ _____
4. $45 \times \frac{9}{3} =$ _____
5. $56 \times \frac{8}{7} =$ _____
6. $42 \times \frac{7}{3} =$ _____
7. $\frac{1}{2}$ of 118 = _____
8. $\frac{8}{3}$ of 56 = _____
9. $\frac{10}{1} \times 400 =$ _____
10. $84 \times \frac{6}{1} =$ _____
11. $64 \times \frac{6}{5} =$ _____
12. $40 \times \frac{20}{11} =$ _____
13. $\frac{8}{5}$ of 48 = _____
14. $\frac{7}{1}$ of 77 = _____
15. $\frac{5}{4} \times 90 =$ _____
16. $42 \times \frac{14}{3} =$ _____
17. $72 \times \frac{8}{5} =$ _____
18. $18 \times \frac{3}{2} =$ _____
19. $\frac{6}{5} \times 84 =$ _____
20. $\frac{12}{11} \times 144 =$ _____
21. $\frac{7}{6} \times 42 =$ _____

22. Complete the table by writing the product of each expression in the box below it. Use a pattern to find each product. Explain the pattern.

$\frac{1}{2} \times 32$	$\frac{1}{4} \times 32$	$\frac{1}{8} \times 32$	$\frac{1}{16} \times 32$
_____	_____	_____	_____

23. Reasoning If $\frac{2}{1}$ of 1 is $\frac{1}{2}$, what is $\frac{2}{1}$ of 2, 3, and 4?

24. Which is $\frac{3}{2}$ of 225?

- A 75 B 113 C 150 D 450

25. Explain It Explain why $\frac{2}{1}$ of 2 equals one whole.

Multiplying Fractions and Whole Numbers

Name _____

Reteaching
11-2

You can find the product of a fraction and a whole number.

Tran needs $\frac{3}{2}$ yard of fabric to sew a pair of shorts. How many yards of fabric will Tran need to sew 6 pairs of shorts?

Step 1. Multiply the numerator by the whole

$$2 \times 6 = 12$$

Simplify if possible.

$$\frac{12}{3} = 4 \text{ yards of fabric}$$

Step 2. Place the product over the denominator.

Remember: In word problems, “of” means “multiply.”

Example: $\frac{3}{5}$ of 15 = $\frac{3}{5} \times 15$

In questions 1–4, find each product. Simplify if possible.

1. $\frac{1}{3} \times 60 =$ _____

2. $\frac{4}{3}$ of 32 = _____

3. $\frac{8}{7} \times 40 =$ _____

4. $\frac{7}{2}$ of 35 = _____

For questions 5–7, use the table to the right.

5. What is $\frac{7}{1}$ the speed of a cheetah? _____

6. What is $\frac{5}{1}$ the speed of a cat? _____

7. What is $\frac{5}{1}$ the speed of a jackal? _____

Animal	Speed (in mi/h)
Cat	30
Cheetah	70
Jackal	35

Name _____

Estimating Products

11-3
Reteaching

When you are working with fractions and mixed numbers, you can estimate using rounding, compatible numbers, or compatible benchmark fractions.

<p>Estimate $\frac{10}{3} \times 21$ using a whole number that is compatible with the denominator.</p> <p>Change 21 to the nearest whole number that is compatible with 10.</p> <p>$\frac{10}{3} \times 21$</p> <p>$\frac{10}{3} \times 20 = 6$</p> <p>$\frac{10}{3} \times 21 \approx 6$</p> <p>Think: $20 \div 10 = 2$.</p> <p>$3 \times 2 = 6$.</p>	<p>Estimate $\frac{10}{3} \times 12$ using a compatible benchmark fraction.</p> <p>Round $\frac{10}{3}$ to a compatible benchmark fraction. Since $\frac{10}{3}$ is close to $\frac{4}{1}$ and 4 is a factor of twelve, use $\frac{4}{1}$.</p> <p>$\frac{4}{1} \times 12 = 3$</p> <p>Think: $12 \div 4 = 3$.</p> <p>$1 \times 3 = 3$.</p>
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Estimate each product by using compatible numbers or benchmark fractions.

- $\frac{5}{1} \times 20 =$ _____
- $\frac{7}{4} \times 12 =$ _____
- $\frac{8}{5} \times 20 =$ _____
- $31 \times \frac{5}{3} =$ _____
- $\frac{12}{7} \times 27 =$ _____
- $\frac{16}{9} \times 70 =$ _____
- $31 \times \frac{7}{2} =$ _____
- $24 \times \frac{12}{5} =$ _____
- $12 \times \frac{9}{4} =$ _____

Estimate each product by rounding each factor to the nearest whole number.

- $10\frac{3}{2} \times 3\frac{1}{4} \rightarrow$ Round $10\frac{3}{2}$: _____ Round $3\frac{1}{4}$: _____ Multiply: _____
- $9\frac{9}{2} \times 3\frac{6}{5} =$ _____
- $5\frac{7}{8} \times 6\frac{4}{3} =$ _____
- $2\frac{5}{1} \times 6\frac{10}{4} =$ _____

- Josh used $\frac{2}{3} \times 21$ as a compatible number estimate for $\frac{1}{3} \times 20$. Is his estimate reasonable? Why or why not?

- Which estimate for $\frac{12}{7} \times 20$ is better than the other?
 $\frac{12}{7} \times 20 \approx \frac{12}{7} \times 24 = 14$
 $\frac{12}{7} \times 20 \approx \frac{1}{2} \times 20 = 10$

Name _____

Estimating Products

Estimate each product.

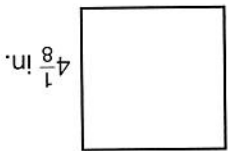
- | | | | |
|--|-------|--|-------|
| 1. $2\frac{8}{3} \times \frac{3}{1}$ | _____ | 2. $6 \times 2\frac{5}{1}$ | _____ |
| 4. $3\frac{6}{7} \times 6\frac{5}{5}$ | _____ | 5. $2\frac{2}{1} \times 2\frac{3}{3}$ | _____ |
| 7. $27 \times \frac{8}{3}$ | _____ | 8. $\frac{7}{1} \times 17$ | _____ |
| 10. $8\frac{9}{4} \times 3\frac{7}{6}$ | _____ | 11. $\frac{15}{12} \times 8$ | _____ |
| 13. $\frac{3}{1} \times 2\frac{10}{4}$ | _____ | 14. $7\frac{5}{5} \times 2\frac{3}{3}$ | _____ |
| | | 15. $\frac{12}{5} \times 12$ | _____ |
16. Show three ways to estimate $\frac{5}{3} \times 9\frac{1}{2}$. Identify each method you use.

17. Jenna lives $4\frac{10}{3}$ miles from school. She estimates that she travels $4 \times 2 \times 5$, or 40 miles each week. Is her estimate an overestimate or an underestimate? Explain.
- _____
- _____

18. Which benchmark fraction could you use to estimate the product of $36 \times \frac{11}{16}$? _____
- _____
- _____

19. **Estimation** Which is the best estimate for the area of a square with sides equal to $4\frac{1}{8}$ inches?

- A 6 sq in.
- B 12 sq in.
- C 16 sq in.
- D 20 sq in.



20. Bryce has 24 baseball trophies. Matt has $\frac{4}{3}$ as many trophies as Bryce. How many trophies does Matt have?

- A 6 trophies
- B 12 trophies
- C 18 trophies
- D 24 trophies

Name _____

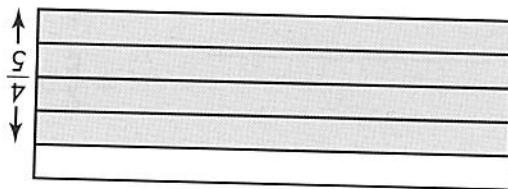
Multiplying Two Fractions

11-4
Reteaching

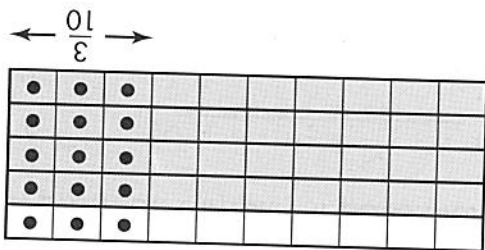
Musa and Karen are riding a bike path that is $\frac{5}{4}$ mile long. Karen's bike got a flat tire $\frac{3}{10}$ of the way down the path and she had to stop. How many miles did Karen ride?

You can find the product of two fractions by drawing a diagram.

Step 1. Draw a diagram using shading to represent $\frac{5}{4}$.



Step 2. Draw lines vertically using dots to represent $\frac{3}{10}$.



Step 3. Count the parts of the diagram that are shaded and dotted. This is the product numerator.

12

Step 4. Count the total number of parts of the diagram. This is the product denominator.

50

Step 5. Simplify if possible.

$$\frac{12}{50} = \frac{25}{6}$$

Another way to find the product:

Step 1. Multiply the numerators: $4 \times 3 = 12$.

Step 2. Multiply the denominators: $5 \times 10 = 50$.

Step 3. Simplify if possible: $\frac{12}{50} = \frac{25}{6}$.

In 1 through 6, find the product. Simplify if possible.

1. $\frac{3}{1} \times \frac{5}{2} =$ _____

2. $\frac{8}{5} \times \frac{4}{1} =$ _____

3. $\frac{6}{5} \times \frac{10}{3} =$ _____

4. $\frac{2}{1} \times 6 =$ _____

5. $14 \times \frac{7}{3} =$ _____

6. $\frac{5}{3} \times \frac{1}{2} \times \frac{7}{6} =$ _____

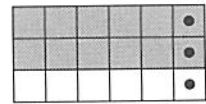
7. Using a diagram, show $\frac{7}{3} \times \frac{1}{4}$.

Multiplying Two Fractions

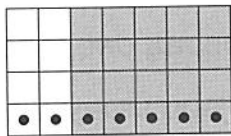
Name _____

11-4
Practice

Write the multiplication problem that each model represents then solve. Put your answer in simplest form.



1.



2.

Find each product. Simplify if possible.

3. $\frac{8}{7} \times \frac{5}{4} =$

5. $\frac{6}{1} \times \frac{5}{2} =$

7. $\frac{9}{2} \times \frac{1}{2} =$

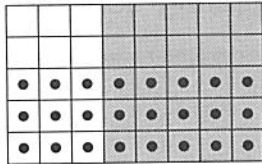
9. $\frac{8}{3} \times \frac{9}{4} =$

11. $\frac{3}{2} \times \frac{6}{5} \times 14 =$

13. If $\frac{5}{4} \times \blacksquare = \frac{5}{2}$, what is \blacksquare ?

14. In Mrs. Marshall's classroom, $\frac{7}{6}$ of the students play sports. Of the students who play sports, $\frac{5}{4}$ also play an instrument. If there are 35 students in her class, how many play sports and an instrument?

15. Which does the model represent?



- A $\frac{3}{8} \times \frac{5}{5}$
- B $\frac{8}{7} \times \frac{5}{2}$
- C $\frac{5}{3} \times \frac{8}{5}$
- D $\frac{8}{4} \times \frac{5}{3}$

16. Describe a model that represents $\frac{3}{3} \times \frac{4}{4}$

Name _____

Area of a Rectangle

11-5
Reteaching

You have learned how to multiply fractions by finding the area of a rectangle.

What is the area of a horse pasture that is $\frac{3}{8}$ mile long by $\frac{2}{3}$ mile wide?

You can draw the pasture on a 24×24 grid.

Change each length and width to 24ths.

$$\frac{3}{8} = \frac{9}{24}$$

$$\frac{2}{3} = \frac{16}{24}$$

$$\text{Area} = \text{length} \times \text{width}$$

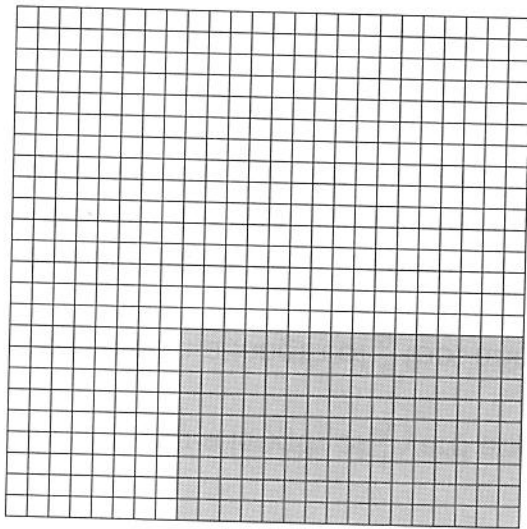
$$\frac{3}{8} \times \frac{2}{3} =$$

$$\frac{16}{24} \times \frac{9}{24} = \frac{144}{576}$$

$$\frac{144}{576} = \frac{1}{4}$$

So, the pasture has an area of $\frac{1}{4}$ square mile.

$$\frac{8}{3} = \frac{8}{9}$$



For questions 1-2, find each area.

1. a rectangle with sides of lengths $\frac{6}{1}$ yard and $\frac{4}{3}$ yard _____
2. a square with sides of lengths $\frac{5}{2}$ inch _____
3. **Writing to Explain** Is $\frac{8}{5}$ sq. in. a reasonable answer for the area of a rectangle with lengths of $\frac{1}{8}$ inch by 5 inches?

Name _____

Area of a Rectangle

Find each area.

1. a rectangle with sides of lengths $\frac{5}{4}$ foot and $\frac{2}{1}$ foot

2. a rectangle with sides of lengths $\frac{3}{1}$ yard and $\frac{4}{3}$ yard

3. a rectangle with sides of lengths $\frac{3}{2}$ foot and $\frac{3}{1}$ foot

4. a rectangle with sides of lengths $\frac{6}{5}$ inch and $\frac{3}{1}$ inch

5. a square with sides of length $\frac{8}{5}$ inch

6. a rectangle with a length of 3 inches and a width of $\frac{1}{8}$ inch

7. a rectangle with a length of $\frac{5}{1}$ yard and a width of $\frac{2}{3}$ yard

8. a rectangle with a length of $\frac{9}{4}$ foot and a width of 2 feet

9. Mrs. Henley built a cage for her bird. She wanted to cover the bottom of the cage with newspaper. If the cage is $\frac{1}{4}$ yard by $\frac{2}{1}$ yard, what is the area that needs to be covered?

- A $\frac{8}{1}$ sq. yd B $\frac{1}{4}$ sq. yd C $\frac{2}{1}$ sq. yd D 8 sq. yd

10. **Writing to Explain** Tariq and Marie each multiplied $\frac{1}{5}$ inch \times $\frac{8}{5}$ inch. Tariq got $\frac{8}{5}$ sq. in. and Marie got $\frac{64}{5}$ sq. in. Which student found the correct area? How do you know?

Name _____

Multiplication as Scaling

Reteaching
11-7

Think of multiplication as scaling or resizing.

Example 1: $2\frac{1}{2} \times 5 > 5$

Multiplying a number by a fraction greater than 1 results in a product greater than the starting number.

Example 2: $\frac{4}{3} \times 5 < 5$

Multiplying a number by a fraction less than 1 results in a product less than the starting number.

Example 3: $\frac{2}{5} \times 5 = 5$

Multiplying by a fraction equal to 1 results in a product equal to the starting number.

Without multiplying, decide which symbol belongs in the box: $<$, $>$, or $=$.

1. $3\frac{2}{1} \times 3\frac{3}{1}$ $3\frac{2}{1}$

2. $\frac{3}{2} \times 2\frac{3}{1}$ $2\frac{3}{1}$

3. $8\frac{5}{2} \times \frac{5}{5}$ $8\frac{5}{2}$

4. $\frac{4}{3} \times 4\frac{3}{2}$ $4\frac{3}{2}$

5. $4\frac{2}{1} \times 1\frac{3}{1}$ $1\frac{3}{1}$

6. $\frac{5}{2} \times 5\frac{3}{2}$ $5\frac{3}{2}$

7. $3\frac{2}{2} \times \frac{4}{4}$ $3\frac{2}{2}$

8. $\frac{8}{5} \times 8\frac{3}{1}$ $8\frac{3}{1}$

9. $5\frac{2}{1} \times 6\frac{2}{3}$ $6\frac{2}{3}$

10. $\frac{8}{3} \times 2\frac{3}{1}$ $2\frac{3}{1}$

11. $10\frac{5}{2} \times \frac{8}{8}$ $10\frac{5}{2}$

12. $\frac{2}{1} \times 9\frac{3}{1}$ $9\frac{3}{1}$

Name _____

Multiplication as Scaling

Practice
11-7

In 1-20, without multiplying, decide which symbol belongs in the box: <, >, or =.

1. $2\frac{1}{2} \times 3\frac{2}{3}$ $3\frac{2}{3}$

3. $\frac{5}{4} \times 4\frac{2}{3}$ $4\frac{2}{3}$

5. $5\frac{5}{3} \times \frac{2}{2}$ $5\frac{5}{3}$

7. $6\frac{2}{1} \times 7\frac{2}{3}$ $7\frac{2}{3}$

9. $\frac{5}{3} \times 8\frac{5}{4}$ $8\frac{5}{4}$

11. $9\frac{1}{2} \times \frac{3}{3}$ $9\frac{1}{2}$

13. $\frac{3}{1} \times 1\frac{5}{2}$ $1\frac{5}{2}$

15. $2\frac{5}{3} \times \frac{4}{4}$ $2\frac{5}{3}$

17. $3\frac{3}{1} \times 4\frac{2}{7}$ $4\frac{2}{7}$

19. $5\frac{1}{2} \times 6\frac{2}{2}$ $5\frac{1}{2}$

2. $\frac{3}{1} \times 9\frac{5}{2}$ $9\frac{5}{2}$

4. $1\frac{5}{3} \times \frac{6}{6}$ $1\frac{5}{3}$

6. $2\frac{3}{1} \times 3\frac{2}{7}$ $3\frac{2}{7}$

8. $4\frac{2}{1} \times 5\frac{3}{3}$ $5\frac{3}{3}$

10. $\frac{5}{3} \times 6\frac{5}{4}$ $6\frac{5}{4}$

12. $7\frac{2}{2} \times \frac{7}{7}$ $7\frac{2}{2}$

14. $\frac{3}{1} \times 8\frac{5}{2}$ $8\frac{5}{2}$

16. $9\frac{5}{3} \times \frac{3}{3}$ $9\frac{5}{3}$

18. $1\frac{3}{2} \times 2\frac{5}{2}$ $2\frac{5}{2}$

20. $3\frac{3}{1} \times \frac{4}{4}$ $3\frac{3}{1}$

$5 \times \frac{4}{3}, 4\frac{1}{4} \times \frac{4}{3}, \frac{2}{1} \times \frac{4}{3}, \frac{3}{3} \times \frac{4}{3}$

without multiplying.

21. Put the following products in order from least to greatest,

22. Put the following products in order from greatest to least,

without multiplying.

$6 \times \frac{5}{2}, 3\frac{3}{2} \times \frac{5}{2}, \frac{7}{2} \times \frac{5}{2}, \frac{2}{2} \times \frac{5}{2}$

23. Melissa and her friends are stretching rubber bands for an activity in science class. Melissa stretched her elastic to 10 inches. Juan stretched it $3\frac{2}{2}$ times as far. Sara stretched it $\frac{4}{4}$ as far. Marsha stretched it $\frac{5}{2}$ as far. Put the students in order of how far they stretched their rubber bands from least to greatest.

Problem Solving: Multiple-Step Problems

Name _____

Some word problems have hidden questions that must be answered before you can solve the problem.

A paved trail is 4 miles long. Jess runs $\frac{3}{8}$ of the length of the trail and walks the rest of the way. How many miles of the trail does Jess walk?

What do you know?

What are you asked to find?

Jess runs $\frac{3}{8}$ of an 4-mile trail.
How many miles of the trail that Jess walks.

How can you find the distance that Jess walks?

Subtract the distance Jess ran from the length of the trail.

What is the hidden question? The hidden question will help you find data you need to solve the problem.

How many miles did Jess run?
To answer, find $\frac{8}{3} \times 4 = 1\frac{1}{3}$.

Use the data to solve: $4 - 1\frac{1}{3} = 2\frac{2}{3}$, so Jess walked $2\frac{2}{3}$ of the 4 miles.

Write and answer the hidden question(s) in each problem. Then solve the problem.

- Jared surfed for $\frac{3}{4}$ of the 9 hours he was at the beach. He spent the rest of the time building a sand castle. How many hours did he spend building the castle?

Hidden question: _____

Solution: _____

- April put gasoline in 4 of her 5-gallon cans and 6 of her 2-gallon cans. She filled all the cans to the exact capacity. How many gallons of gasoline did she buy?

Hidden question 1: _____

Hidden question 2: _____

Solution: _____

- It costs Le Stor \$10 to buy a shirt. The store sells the shirt for $2\frac{1}{2}$ times its cost. What is the profit for 100 of these shirts? Hint: Profit equals sales minus cost.

Hidden question 1: _____

Hidden question 2: _____

Solution: _____

Problem Solving: Multiple-Step Problems

Name _____

Practice
11-8

- Write and answer the hidden question(s) in each problem. Then solve the problem.
1. Rahm spent $2\frac{1}{2}$ hours writing an essay. It took him 4 times as long to finish his science project. How long did it take Rahm to write the essay and finish the science project?

Hidden question(s): _____

Solution: _____

2. Lauren bought 20 ounces of sliced ham. She used $\frac{4}{3}$ of the ham to make sandwiches for her friends and $\frac{5}{1}$ of the ham in an omelet. How many ounces of ham were left?

Hidden question(s): _____

Solution: _____

3. Sarah cut off $\frac{8}{1}$ of a 48-inch piece of ribbon. Jane cut off $\frac{9}{1}$ of a 36-inch piece of ribbon. They compared their cut pieces. Whose piece is longer? How much longer?

Hidden question(s): _____

Solution: _____

4. Misty bought 3 CDs. The country music CD cost \$12. The rock music CD cost $\frac{3}{2}$ as much as the country music CD. The platinum edition CD cost twice as much as the rock CD. What was the cost of the three CDs?

Hidden question(s): _____

Solution: _____

5. Choose one of the problems above. Explain how you determined the hidden question and why it was necessary to answer that question in order to solve the problem.

Dividing Whole Numbers by Unit Fractions

11-9
Reteaching

Name _____

How can you divide a whole number by a fraction?

$2 \div \frac{1}{3}$ Think: How can I divide two into one-thirds? $2 = 1 + 1$ $\frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} + \frac{1}{3} = 2$ $2 \div \frac{1}{3} = 2 \times \frac{3}{1} = 2 \times 3 = 6$ $2 \div \frac{1}{3} = 6$	<p>1. Two is the sum of one plus one.</p> <p>2. Each one is the sum of three one-thirds.</p> <p>3. Count the number of one-thirds.</p> <p>Check To divide a whole number by a fraction, multiply the whole number by the reciprocal of the fraction.</p>
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$3 \div \frac{4}{3}$ Think: How can I divide three into three-fourths? $3 = 1 + 1 + 1$ $\frac{4}{3} + \frac{4}{3} + \frac{4}{3} + \frac{4}{3} + \frac{4}{3} + \frac{4}{3} = 3$ $3 \div \frac{4}{3} = 3 \times \frac{3}{4} = 3 \times \frac{1}{4} = \frac{3}{4} = \frac{3}{12} = 4$	<p>1. Three is the sum of one plus one plus one.</p> <p>2. Each one is the sum of one three-fourths and one one-fourth.</p> <p>3. Count the number of three-fourths.</p> <p>Check Multiply the whole number by the reciprocal of the fraction.</p>
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Draw a picture that shows each division and write the answer.

1. $2 \div \frac{2}{1}$ _____

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

Dividing Whole Numbers by Unit Fractions

Name _____

Practice
11-9



In 1 and 2, use the picture to find each quotient.

1. How many thirds are in 1?

2. How many thirds are in 7?

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

In 3 and 4, draw a picture to find each quotient.

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

5. $6 \div \frac{3}{1}$

6. $5 \div \frac{1}{10}$

7. Julie bought 3 yards of cloth to make holiday napkin rings. If she needs $\frac{4}{3}$ of a yard to make each ring, how many rings can she make?

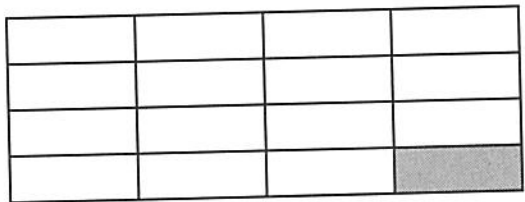
8. When you divide a whole number by a fraction with a numerator of 1, explain how you can find the quotient.

Dividing Unit Fractions by Non-Zero Whole Numbers

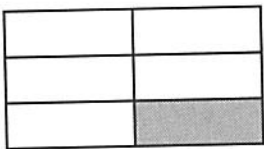
Name _____

In 1-16, find the quotient.

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



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



- 3. $\frac{1}{2} \div 2$ _____
- 5. $\frac{1}{4} \div 5$ _____
- 7. $\frac{6}{1} \div 4$ _____
- 9. $\frac{2}{1} \div 3$ _____
- 11. $\frac{4}{1} \div 2$ _____
- 13. $\frac{6}{1} \div 5$ _____
- 15. $\frac{2}{1} \div 4$ _____
- 4. $\frac{5}{1} \div 4$ _____
- 6. $\frac{7}{1} \div 7$ _____
- 8. $\frac{9}{1} \div 6$ _____
- 10. $\frac{3}{1} \div 5$ _____
- 12. $\frac{5}{1} \div 7$ _____
- 14. $\frac{7}{1} \div 6$ _____
- 16. $\frac{9}{1} \div 5$ _____

17. Cameron and his family were eating leftover lasagna. There was $\frac{2}{1}$ of the lasagna left. Cameron has one brother, one sister, and two parents. If everyone gets the same size piece, what fraction of the original lasagna does each member of Cameron's family receive?

Name _____

Dividing Unit Fractions by Non-Zero Whole Numbers

Reteaching
11-10

How can you model dividing a unit fraction by a whole number?

Think: Divide $\frac{3}{1}$ into 4 equal parts.

$$\frac{3}{1} \div 4$$

Each part contains $\frac{1}{12}$ of the whole.

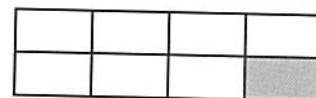
$$\text{So } \frac{3}{1} \div 4 = \frac{1}{12}.$$

Use multiplication to check.

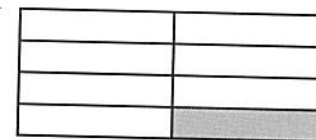
$$4 \times \frac{1}{12} = \frac{4}{12} = \frac{1}{3}$$

Find the quotient.

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



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



3. $\frac{1}{3} \div 6$

4. $\frac{5}{1} \div 2$

5. $\frac{4}{1} \div 5$

6. $\frac{6}{1} \div 3$

7. $\frac{5}{1} \div 7$

8. $\frac{1}{2} \div 5$

Name _____

Problem Solving: Draw a Picture and Write an Equation

11-11
Reteaching

Travis earned 3 stickers for each song he played in his piano lesson. He received a total of 24 stickers. How many songs did he play? You can solve a problem like this by drawing a picture and writing an equation.

Step 1. Write out what you already know.

Travis earned 3 stickers for each song he played. Travis had

24 stickers at the end of the lesson.

Step 2. Draw a picture to show what you

know.

Step 3. Write out what you are trying to find.

How many songs did Travis play?

Step 4. Write an equation from your drawing.

Since you are dividing Travis's total

stickers into groups of 3 (stickers

earned per song), this is a

division problem.

$24 \div 3 = s$ $s =$ number of songs

Travis played

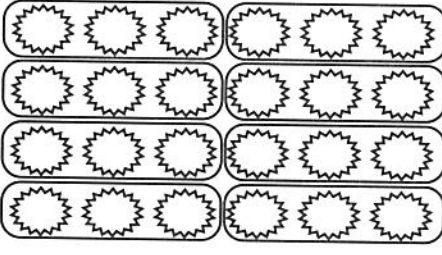
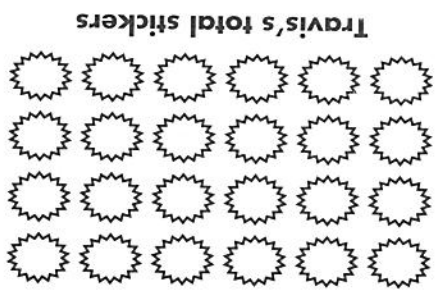
Step 5. Solve the equation.

$$24 \div 3 = 8 \quad s = 8$$

So, Travis played 8 songs during his lesson.

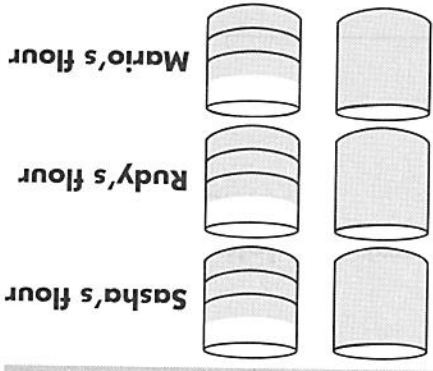
Step 6. Check your answer by working backward.

$$8 \times 3 = 24: \text{ your answer is correct.}$$



1. Sasha, Rudy, and Mario each have $1\frac{3}{4}$ cups of flour. Can they make a recipe for bread that needs 5 cups of flour?

Draw a picture, write an equation, and solve.



Name _____

Problem Solving: Draw a Picture and Write an Equation

Solve each problem. Draw a picture to show the main idea for each problem. Then write an equation and solve it. Write the answer in a complete sentence.

1. Bobby has 3 times as many model spaceships as his friend Sylvester does. Bobby has 21 spaceships. How many model spaceships does Sylvester have?

2. Dan saved \$463 over the 12 weeks of summer break. He saved \$297 of it during the last 4 weeks. How much did he save during the first 8 weeks?

3. Use a separate sheet of paper to show the main idea for the following problem. Choose the answer that solves the problem correctly.
A box of peanut-butter crackers was divided evenly among 6 children. Each child got 9 crackers. How many crackers were in the box?

A 54 B 48 C 39 D 36

4. Why is it helpful to draw a picture when attempting to solve an equation?