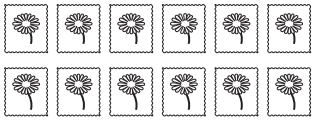
Name _____

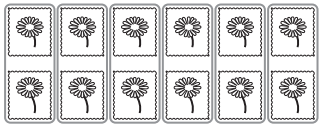
Find Part of a Group

Lauren bought 12 stamps for postcards. She gave Brianna $\frac{1}{6}$ of them. How many stamps did Lauren give to Brianna?



Find $\frac{1}{6}$ of 12.

Step 1 What is the denominator in the fraction of the stamps Lauren gave to Brianna? 6
So, divide the 12 stamps into 6 equal groups. Circle the groups.



Step 2 Each group represents $\frac{1}{6}$ of the stamps.

How many stamps are in 1 group? 2

So, $\frac{1}{6}$ of 12 is 2, or $\frac{1}{6} \times 12$ is 2.
So, Lauren gave Brianna 2 stamps.

Use a model to solve.

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

2. $\frac{1}{3} \times 9 =$ _____

3. $\frac{3}{5} \times 20 =$ _____

4. $\frac{4}{6} \times 18 =$ _____

Name _____

Part of the Group

Evan and his friends go to a theme park. Each friend buys 24 tickets. Read each problem. Draw counters, then solve.

1. Evan uses $\frac{1}{3}$ of his tickets to ride the Loop-D-Loop twice. What is $\frac{1}{3}$ of 24 tickets?

_____

2. Omar uses $\frac{1}{6}$ of his tickets to ride the water slide twice. What is $\frac{1}{6}$ of 24 tickets?

_____

3. Kate uses $\frac{2}{3}$ of her tickets to ride the roller coaster four times. What is $\frac{2}{3}$ of 24 tickets?

_____

4. Jenny uses $\frac{3}{4}$ of her tickets to play nine games. What is $\frac{3}{4}$ of 24 tickets?

_____

5. Write Math Write your own fraction problem to find part of a group of 24. Then use a model to solve.

_____

_____

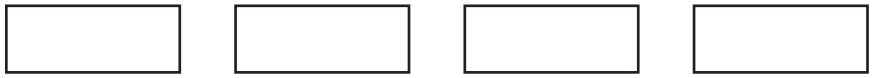
_____

Name _____

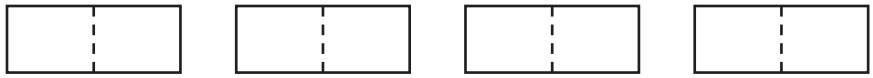
Multiply Fractions and Whole Numbers

Find the product. $\frac{3}{8} \times 4$

Step 1 Draw 4 rectangles to represent the factor 4.



Step 2 The denominator of the factor $\frac{3}{8}$ is 8. So, divide the 4 rectangles into 8 equal parts.



Step 3 The numerator of the factor $\frac{3}{8}$ is 3. So, shade 3 of the parts.

Step 4 The 4 rectangles have 3 shaded parts. Each rectangle is divided into 2 equal parts. So, $\frac{3}{2}$ of the rectangles are shaded.

So, $\frac{3}{8} \times 4$ is $\frac{3}{2}$, or $1\frac{1}{2}$.

Find the product.

1. $\frac{5}{12} \times 4 =$ _____

2. $8 \times \frac{3}{4} =$ _____

3. $\frac{7}{9} \times 3 =$ _____

4. $5 \times \frac{4}{7} =$ _____

5. $\frac{9}{10} \times 5 =$ _____

6. $3 \times \frac{3}{4} =$ _____

7. $\frac{7}{12} \times 6 =$ _____

8. $12 \times \frac{2}{9} =$ _____

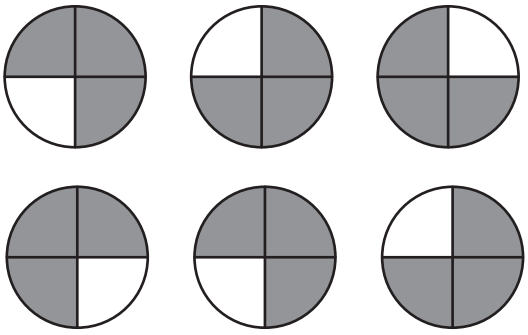
9. $\frac{2}{9} \times 3 =$ _____

Name _____

Models and Multiplication

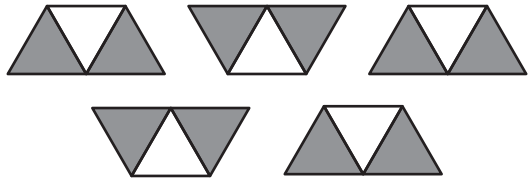
Write the multiplication expression that each model represents. Then find the product. Write the product in simplest form.

1.



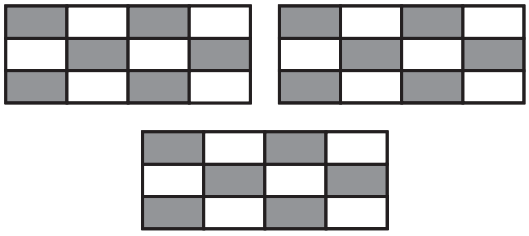
_____

2.



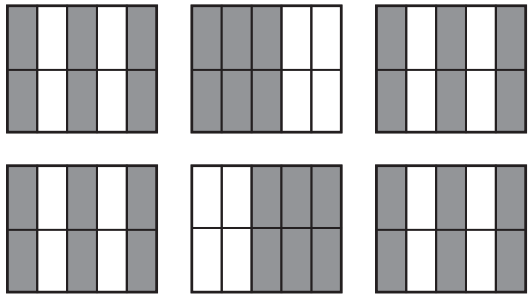
_____

3.



_____

4.

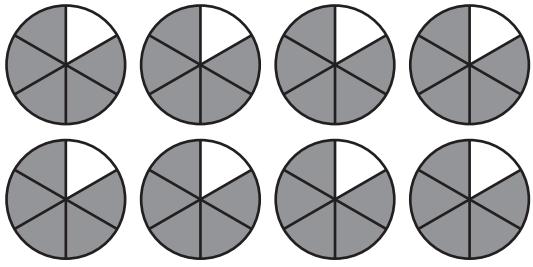


_____

5.

_____

6.



_____

Name _____

Fraction and Whole Number Multiplication

Find the product. $3 \times \frac{5}{6}$

$3 \times \frac{5}{6} = \frac{3}{\boxed{1}} \times \frac{5}{6}$ Write the whole-number factor, 3, as $\frac{3}{1}$.

$= \frac{3 \times \boxed{5}}{1 \times 6}$ Multiply the numerators. Then multiply the denominators.

$= \frac{\boxed{15}}{6}$

$= \boxed{2}\frac{3}{6}$, or $2\frac{\boxed{1}}{\boxed{2}}$ Write the product as a mixed number in simplest form.

So, $3 \times \frac{5}{6}$ is $2\frac{1}{2}$.

Find the product. Write the product in simplest form.

1. $\frac{2}{3} \times 8 = \frac{2}{3} \times \frac{8}{\square}$

$= \frac{\square \times \square}{\square \times \square}$

$= \frac{\square}{\square}$, or _____

2. $4 \times \frac{2}{9} =$ _____

3. $6 \times \frac{3}{4} =$ _____

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

5. $5 \times \frac{3}{8} =$ _____

6. $9 \times \frac{2}{3} =$ _____

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

8. $7 \times \frac{4}{10} =$ _____

Name _____

Product Match Riddle

Find each product. Write the product as a mixed number. Then match each product in the numbered column with a product in the lettered column.

1. $6 \times \frac{7}{8} =$ _____	**W.** $\frac{5}{12} \times 4 =$ _____
2. $\frac{9}{10} \times 4 =$ _____	**E.** $\frac{5}{9} \times 6 =$ _____
3. $\frac{2}{3} \times 10 =$ _____	**L.** $\frac{5}{12} \times 9 =$ _____
4. $2 \times \frac{5}{6} =$ _____	**T.** $6 \times \frac{3}{5} =$ _____
5. $5 \times \frac{2}{3} =$ _____	**O.** $8 \times \frac{5}{6} =$ _____
6. $\frac{3}{4} \times 5 =$ _____	**A.** $7 \times \frac{3}{4} =$ _____

To solve the riddle, write the letter that corresponds to the matching exercise number.

What gets wetter the more it dries?

_____	_____	_____	_____	_____	_____
1	2	3	4	5	6

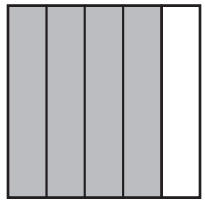
Name _____

Multiply Fractions

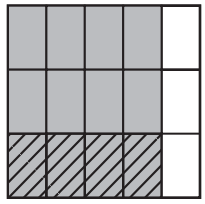
You can use a model to help you multiply two fractions.

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

Step 1 Draw a rectangle. Divide it into 5 equal columns. To represent the factor $\frac{4}{5}$, shade **4** of the 5 columns.



Step 2 Since the denominator of the factor $\frac{1}{3}$ is 3, divide the rectangle into 3 equal rows. Shade $\frac{1}{3}$ of the $\frac{4}{5}$ you already shaded.



The rectangle is divided into **15** smaller rectangles. This is the denominator of the product.

There are 4 smaller rectangles that contain both types of shading. So, **4** is the numerator of the product.

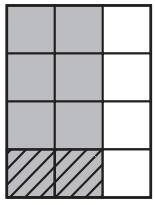
So $\frac{4}{15}$ of the rectangles contain both types of shading.

Think: What is $\frac{1}{3}$ of $\frac{4}{5}$?

$\frac{1}{3} \times \frac{4}{5} = \frac{4}{15}$.

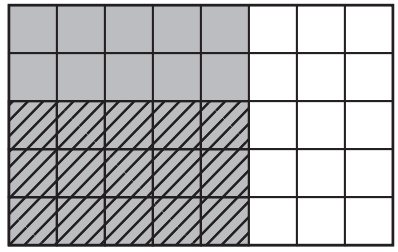
Find the product. Draw a model.

1.



$\frac{1}{4} \times \frac{2}{3} =$ _____

2.



$\frac{3}{5} \times \frac{5}{8} =$ _____

3.

$\frac{2}{5} \times \frac{3}{4} =$ _____

4.

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

Name _____

Multiplying Model Match

Find the letter of the model that represents the multiplication problem. Then use the model to find the product.

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

Model: _____

2. $\frac{1}{2} \times \frac{3}{4} =$ _____

Model: _____

3. $\frac{3}{4} \times \frac{4}{5} =$ _____

Model: _____

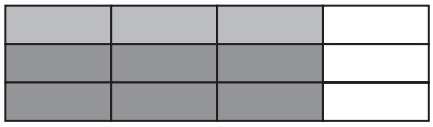
4. $\frac{2}{3} \times \frac{3}{4} =$ _____

Model: _____

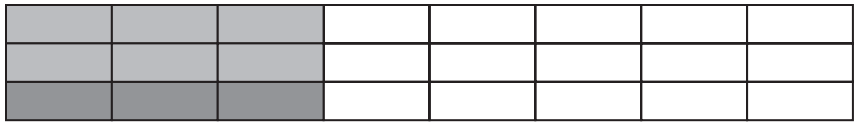
5. $\frac{1}{3} \times \frac{3}{8} =$ _____

Model: _____

A.

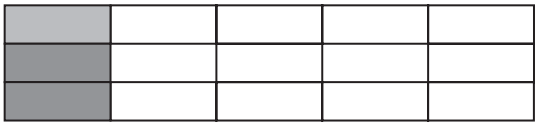


B.

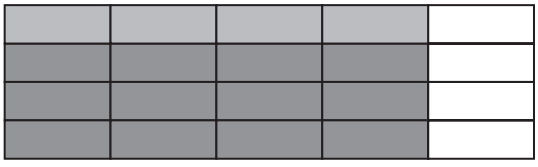


C.

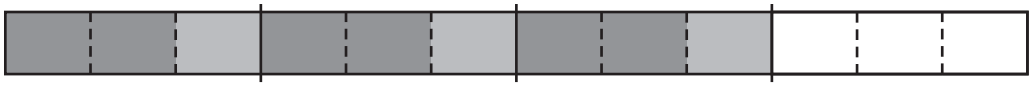
D.



E.



6. Write Math For which multiplication problem above could you have used the model below? **Explain**.



_____

_____

_____

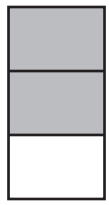
Name _____

Compare Fraction Factors and Products

You can use a model to determine how the size of the product compares to the size of one factor when multiplying fractions.

The factor is 1: $\frac{2}{3} \times 1$

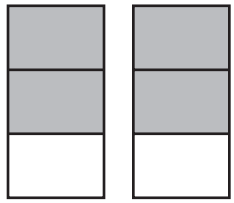
- Draw a model to represent the factor 1. Since the denominator of the factor $\frac{2}{3}$ is 3, divide it into 3 equal sections.
- Shade 2 of the 3 sections to represent the factor $\frac{2}{3}$.



$\frac{2}{3}$ of the rectangle is shaded. So, $\frac{2}{3} \times 1$ is equal to $\frac{2}{3}$.

The factor is greater than 1: $\frac{2}{3} \times 2$

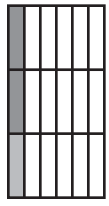
- Draw two rectangles to represent the factor 2. Since the denominator of the factor $\frac{2}{3}$ is 3, divide each rectangle into 3 equal sections.
- Shade 2 of 3 sections in each to represent the factor $\frac{2}{3}$.



In all, 4 sections are shaded, which is greater than the number of sections in one rectangle. So, $\frac{2}{3} \times 2$ is greater than $\frac{2}{3}$.

The factor is less than 1: $\frac{2}{3} \times \frac{1}{6}$

- Draw a rectangle. Divide it into 6 equal columns. Shade 1 of the 6 columns to represent the factor $\frac{1}{6}$.
- Since the denominator of the factor $\frac{2}{3}$ is 3, divide the rectangle into 3 equal rows. Shade 2 of the 3 rows of the section already shaded to represent the factor $\frac{2}{3}$.



The rectangle is divided into 18 sections. 2 of the sections are shaded twice. 2 sections is less than the 3 sections that represent $\frac{1}{6}$. So, $\frac{2}{3} \times \frac{1}{6}$ is less than $\frac{1}{6}$.

Complete the statement with *equal to*, *greater than*, or *less than*.

1. $\frac{3}{7} \times \frac{2}{5}$ will be _____ $\frac{3}{7}$.

2. $\frac{7}{8} \times 3$ will be _____ $\frac{7}{8}$.

3. $\frac{1}{6} \times \frac{5}{5}$ will be _____ $\frac{1}{6}$.

4. $5 \times \frac{6}{7}$ will be _____ 5.

Name _____

Product Comparisons

Compare each pair of products. Then complete the statement with *equal to*, *greater than*, or *less than*.

1. $3 \times \frac{7}{8}$ is _____ $\frac{1}{3} \times \frac{7}{8}$.

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

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

4. $7 \times \frac{5}{10}$ is _____ $8 \times \frac{5}{10}$.

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

6. $\frac{1}{6} \times \frac{2}{5}$ is _____ $\frac{1}{6} \times 5$.

7. $5 \times \frac{4}{9}$ is _____ $\frac{4}{9} \times 5$.

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

9. $1 \times \frac{5}{8}$ is _____ $\frac{8}{8} \times \frac{5}{8}$.

10. $\frac{1}{2} \times \frac{1}{4}$ is _____ $\frac{1}{2} \times 4$.

11. Write Math In Exercises 1–10, how did you know when to complete a statement with *equal to*?

_____

_____

12. Stretch Your Thinking How would you complete the following statement: $3\frac{1}{3} \times 4$ is _____ $3\frac{1}{3} \times \frac{1}{5}$? **Explain**.

_____

_____

_____

Name _____

Fraction Multiplication

To multiply fractions, you can multiply the numerators, then multiply the denominators. Write the product in simplest form.

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

Step 1 Multiply the numerators. Multiply the denominators.

$$\frac{3}{10} \times \frac{4}{5} = \frac{3 \times 4}{10 \times 5}$$

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

Step 2 Write the product in simplest form.

$$\frac{12}{50} = \frac{12 \div 2}{50 \div 2}$$

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

So, $\frac{3}{10} \times \frac{4}{5}$ is $\frac{6}{25}$.

Find the product. Write the product in simplest form.

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

2. $\frac{4}{7} \times \frac{5}{12}$ _____

3. $\frac{3}{8} \times \frac{2}{9}$ _____

4. $\frac{4}{5} \times \frac{5}{8}$ _____

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

6. $\frac{3}{4} \times 8$ _____

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

8. $\frac{5}{6} \times \frac{3}{8}$ _____

Name _____

Multiplication Expression Match

Draw a line to match the multiplication expression on the left to the equivalent expression or fraction on the right. Some expressions will have more than one match.

1. $8 \times \frac{3}{4} =$	$4 \times \frac{1}{4}$ $12 \times \frac{1}{2}$ $4 \times \frac{3}{8}$
2. $\frac{1}{2} \times \frac{1}{8} =$	$\frac{1}{4} \times \frac{1}{4}$ $\frac{1}{16}$ $\frac{2}{1} \times \frac{8}{1}$
3. $\frac{2}{3} \times 9 =$	$\frac{2}{27}$ $18 \times \frac{1}{6}$ 2×3
4. $\frac{5}{6} \times \frac{3}{5} =$	$\frac{3}{10} + \frac{1}{5}$ $\frac{5}{3} \times \frac{6}{5}$ $\frac{4}{8}$
5. $12 \times \frac{1}{12} =$	$\frac{1}{12} \times 12$ $\frac{12}{12}$ $8 \times \frac{1}{8}$
6. $\frac{4}{9} \times \frac{7}{8} =$	$\frac{5}{9} \times \frac{6}{8}$ $\frac{8}{18} \times \frac{21}{24}$ $\frac{14}{32}$

7. Stretch Your Thinking Write two fraction multiplication expressions that are equivalent to the expression $\frac{3}{4} \times \frac{2}{3}$.

_____

_____

8. Write Math If you interchange the two fractions in a multiplication expression will the product remain the same? **Explain** your answer.

_____

_____

_____

Area and Mixed Numbers

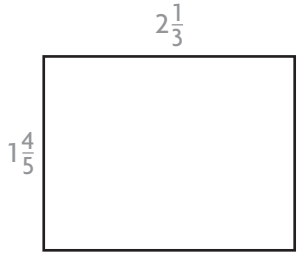
You can use an area model to help you multiply mixed numbers.

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

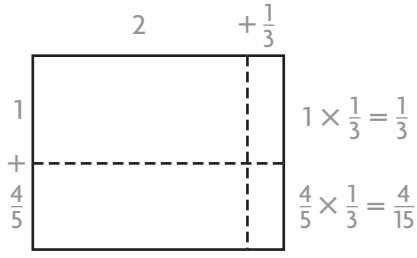
Step 1 Rewrite each mixed-number factor as the sum of a whole number and a fraction.

$1\frac{4}{5} = 1 + \frac{4}{5}$ and $2\frac{1}{3} = 2 + \frac{1}{3}$

Step 2 Draw an area model to show the original multiplication problem.



Step 3 Draw dashed lines, and label each section to show how you broke apart the mixed numbers in Step 1.



Step 4 Find the area of each section.

$1 \times 2 =$ 2

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

$\frac{4}{5} \times 2 =$ $\frac{8}{5}$

$\frac{4}{5} \times \frac{1}{3} =$ $\frac{4}{15}$

Step 5 Add the areas of each of the sections to find the total area of the rectangle.

$2 + \frac{1}{3} + \frac{8}{5} + \frac{4}{15} = \frac{\boxed{30}}{15} + \frac{\boxed{5}}{15} + \frac{\boxed{24}}{15} + \frac{4}{15}$

$= \frac{\boxed{63}}{15}$, or $4\frac{1}{5}$

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

Use an area model to solve.

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

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

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

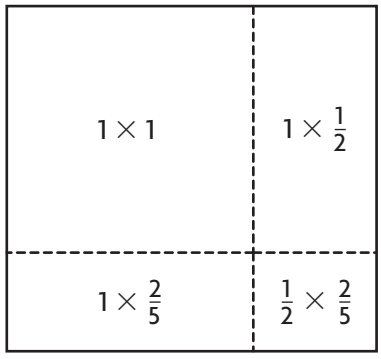
Name _____

Models and Mixed Numbers

Area Model

1. What multiplication expression does the model represent?

_____ × _____



2. What is the product?

_____

3. Write a word problem that can be represented by the model.

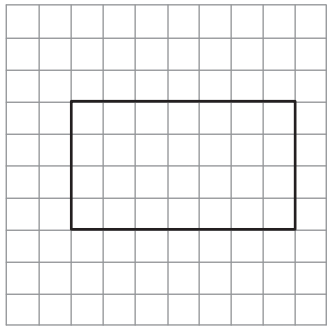
_____

_____

_____

Square Unit Tile Model

4. Use the grid at the right to write a multiplication expression. Tell what each unit square represents.



_____

_____

5. Use your multiplication expression from Exercise 4. What is the area of the diagram?

_____

_____

_____

6. Write Math Write a word problem that can be represented by the diagram.

_____

_____

Name _____

Compare Mixed Number Factors and Products

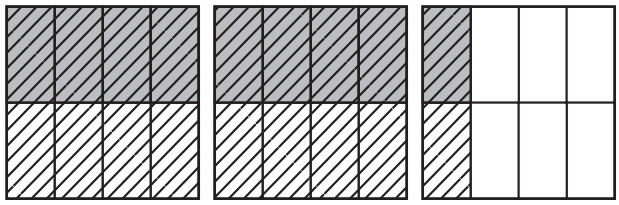
Complete each statement with *equal to*, *greater than*, or *less than*.

$1 \times 1\frac{3}{4}$ is _____ ? _____ $1\frac{3}{4}$.

The Identity Property of Multiplication states that the product of

1 and any number is that number. So, $1 \times 1\frac{3}{4}$ is _____ equal to _____ $1\frac{3}{4}$.

$\frac{1}{2} \times 2\frac{1}{4}$ is _____ ? _____ $2\frac{1}{4}$.



Draw three rectangles. Divide each rectangle into 4 equal columns.

Shade completely the first two rectangles and one column of the last rectangle to represent $2\frac{1}{4}$.

Divide the rectangles into 2 rows. Shade one row to represent the factor $\frac{1}{2}$.

18 small rectangles are shaded. 9 rectangles have both types of shading. 9 rectangles is less than the 18 rectangles that represent $2\frac{1}{4}$.

So, $\frac{1}{2} \times 2\frac{1}{4}$ is _____ less than _____ $2\frac{1}{4}$.

When you multiply a mixed number by a fraction less than 1,

the product will be _____ less than _____ the mixed number.

$1\frac{1}{4} \times 1\frac{3}{4}$ is _____ ? _____ $1\frac{1}{4}$.

Use what you know about the product of two whole numbers greater than 1 to determine the size of the product of two mixed numbers.

So, $1\frac{1}{4} \times 1\frac{3}{4}$ is _____ greater than _____ $1\frac{1}{4}$ and _____ greater than _____ $1\frac{3}{4}$.

When you multiply two mixed numbers, their product is _____ greater than _____ either factor.

Complete the statement with *equal to*, *greater than*, or *less than*.

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

2. $\frac{6}{6} \times 3\frac{1}{3}$ is _____ $3\frac{1}{3}$.

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

4. $\frac{8}{9} \times 4\frac{3}{4}$ is _____ $4\frac{3}{4}$.

Name _____

Comparing Factors and Products

For each exercise, circle the number that makes the sentence true.

1. _____ $\times 1\frac{7}{8}$ is greater than $1\frac{7}{8}$.

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

2. _____ $\times 2\frac{2}{3}$ is less than $2\frac{2}{3}$.

$\frac{3}{5}$ $\frac{3}{3}$ $1\frac{1}{5}$

3. _____ $\times 5\frac{1}{2}$ is equal to $5\frac{1}{2}$.

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

4. _____ $\times 9\frac{1}{8}$ is greater than $9\frac{1}{8}$.

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

5. _____ $\times 3\frac{2}{3}$ is greater than $3\frac{2}{3}$.

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

6. _____ $\times 4\frac{7}{8}$ is equal to $4\frac{7}{8}$.

$\frac{3}{8}$ 1 $2\frac{1}{3}$

7. _____ $\times 1\frac{1}{5}$ is less than $1\frac{1}{5}$.

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

8. _____ $\times 1\frac{7}{8}$ is greater than $1\frac{7}{8}$.

1 $\frac{4}{4}$ $2\frac{2}{7}$

9. _____ $\times 6\frac{1}{9}$ is less than $6\frac{1}{9}$.

$\frac{1}{9}$ 1 $1\frac{1}{9}$

10. _____ $\times 4\frac{3}{7}$ is equal to $4\frac{3}{7}$.

$\frac{1}{8}$ $\frac{7}{7}$ $8\frac{4}{7}$

11. Write Math In each exercise above, how did you decide which number made the sentence true?

_____

_____

_____

12. **Stretch Your Thinking** How would you complete the following statement: $(\frac{1}{2} \times 4\frac{3}{4}) \times \frac{1}{7}$ is _____ $4\frac{3}{4}$? **Explain**.

_____

_____

_____

Name _____

Multiply Mixed Numbers

You can use a multiplication square to multiply mixed numbers.

Multiply. $1\frac{2}{7} \times 1\frac{3}{4}$ **Write the product in simplest form.**

Step 1 Write the mixed numbers outside the square.

×	1	$\frac{2}{7}$
1		
$\frac{3}{4}$		

Step 2 Multiply the number in each column by the number in each row.

×	1	$\frac{2}{7}$
1	1×1	$\frac{2}{7} \times 1$
$\frac{3}{4}$	$1 \times \frac{3}{4}$	$\frac{2}{7} \times \frac{3}{4}$

Step 3 Write each product inside the square.

×	1	$\frac{2}{7}$
1	1	$\frac{2}{7}$
$\frac{3}{4}$	$\frac{3}{4}$	$\frac{3}{14}$

Step 4 Add the products inside the multiplication square.

$$1 + \frac{2}{7} + \frac{3}{4} + \frac{3}{14}$$

Find the least common denominator.

$$\frac{28}{28} + \frac{8}{28} + \frac{21}{28} + \frac{6}{28} = \frac{63}{28}$$

Simplify.

$$\frac{63}{28} = 2\frac{7}{28}, \text{ or } 2\frac{1}{4}$$

So, $1\frac{2}{7} \times 1\frac{3}{4}$ is $2\frac{1}{4}$.

Find the product. Write the product in simplest form.

1. $2\frac{5}{8} \times 1\frac{1}{7}$ _____

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

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

4. $7\frac{7}{10} \times \frac{10}{11}$ _____

Use the Distributive Property to find the product.

5. $12 \times 2\frac{1}{2}$ _____

6. $15 \times 5\frac{1}{3}$ _____

Name _____

Mixed Numbers with Unknown Numbers

Choose which numbers below the multiplication sentence make the sentence true. Write the numbers in the boxes.

1. $3\frac{2}{\square} \times \frac{\square}{3} = 2\frac{4}{15}$

Answer choices: **2** **5**

2. $1\frac{7}{8} \times \frac{1}{4} = \frac{\square}{\square}$

Answer choices: **7** **15** **24** **32**

3. $2\frac{\square}{6} \times \frac{\square}{4} = 2\frac{1}{8}$

Answer choices: **2** **3** **5**

4. $4\frac{1}{\square} \times 3\frac{3}{7} = 15\frac{3}{\square}$

Answer choices: **2** **3** **7**

5. $\square\frac{1}{3} \times \square\frac{9}{10} = 10\frac{2}{15}$

Answer choices: **1** **5** **6**

6. $2\frac{3}{8} \times \square\frac{1}{\square} = 15\frac{7}{16}$

Answer choices: **1** **2** **4** **6**

7. $\square\frac{4}{5} \times \square\frac{1}{4} = \square\frac{17}{20}$

Answer choices: **1** **3** **5**

8. $2\frac{4}{\square} \times 4\frac{\square}{6} = 12\frac{\square}{7}$

Answer choices: **3** **5** **7**

9. $\square\frac{2}{3} \times \frac{\square}{4} = 1\frac{1}{\square}$

Answer choices: **1** **4** **6**

10. $\frac{3}{\square} \times \square\frac{1}{8} = 1\frac{7}{8}$

Answer choices: **3** **5** **6**

11. What is the unknown number for the following equation?

$$8\frac{1}{\square} \times 1\frac{1}{3} = 11\frac{1}{3}$$

12. Write Math **Describe** a method you used to complete the exercises above.

_____

_____

_____

Name _____

Problem Solving • Find Unknown Lengths

Zach built a rectangular deck in his backyard. The area of the deck is 300 square feet. The length of the deck is $1\frac{1}{3}$ times as long as the width. What are the dimensions of the deck?

Read the Problem		
What do I need to find? I need to find the dimensions of the deck.	**What information do I need to use?** The deck has an area of 300 square feet, and the length is $1\frac{1}{3}$ as long as the width.	**How will I use the information?** I will guess the length and width of the deck. Then I will check my guess and revise it if it is not correct.

Solve the Problem

I can try different values for the length of the deck, each that is $1\frac{1}{3}$ times as long as the width. Then I can multiply the length and width and compare to the correct area.

Guess		Check	Revise
Width (in feet)	**Length (in feet) ($1\frac{1}{3}$ times the width)**	**Area of Deck (in square feet)**	
12	$1\frac{1}{3} \times 12 =$ 16	$12 \times 16 =$ 192 too low	Try a longer width.
18	$1\frac{1}{3} \times 18 =$ 24	$18 \times 24 =$ 432 too high	Try a shorter width.
15	$1\frac{1}{3} \times 15 =$ 20	$15 \times 20 =$ 300 correct	

So, the dimensions of the deck are 20 feet by 15 feet.

1. Abigail made a quilt that has an area of 4,800 square inches. The length of the quilt is $1\frac{1}{3}$ times the width of the quilt. What are the dimensions of the quilt?

_____

2. The width of the mirror in Shannon's bathroom is $\frac{4}{9}$ its length. The area of the mirror is 576 square inches. What are the dimensions of the mirror?

_____

Name _____

Perimeter and Area

Solve each problem.

1. The perimeter of a rectangular rug is 24 feet. The length of the rug is $1\frac{2}{5}$ its width. What is the area of the rug?

_____

2. The perimeter of a rectangular banner is 72 inches. The width of the banner is $\frac{1}{3}$ its length. What is the area of the banner?

_____

3. The perimeter of a rectangular patio is 80 feet. The width of the patio is $\frac{2}{3}$ its length. What is the area of the patio?

_____

4. The perimeter of a rectangular table is 132 inches. The length of the table is $1\frac{3}{4}$ times its width. What is the area of the table?

_____

5. The perimeter of a rectangular poster is 84 inches. The length of the poster is $2\frac{1}{2}$ times its width. What is the area of the poster?

_____

6. Write Math **Explain** how you solved Problem 1.

_____

_____

_____

_____

_____

_____