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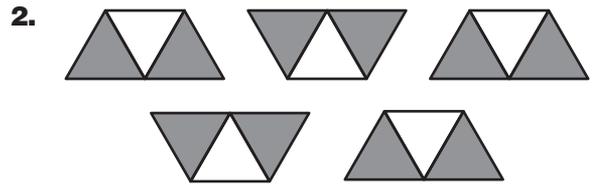play nine games. What is $\frac{3}{4}$ of
24 tickets?

_____

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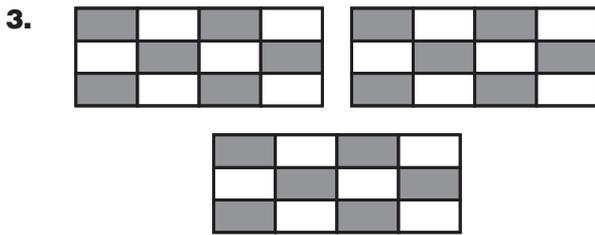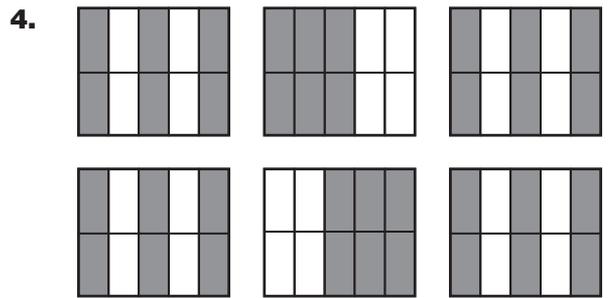
_____

_____

_____

Models and Multiplication

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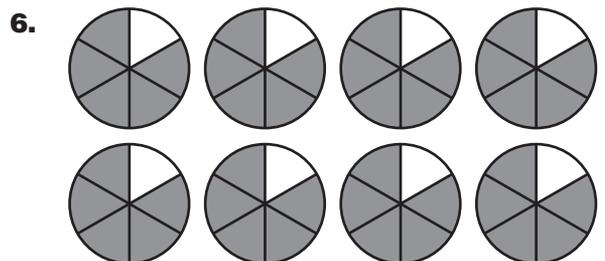Then find the product. Write the product in simplest form.**

1.

_____

2.

_____

3.

_____

4.

_____

5.

_____

6.

_____
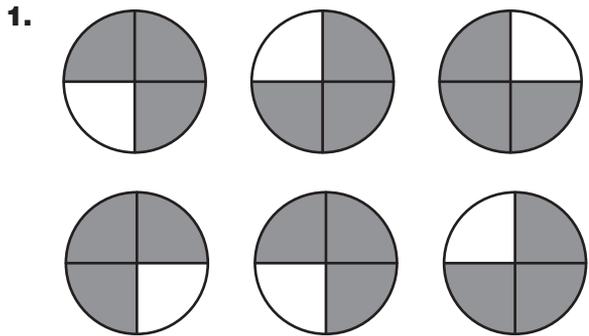
Name _____

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. $6 \times \frac{7}{8} =$ _____

2. $\frac{9}{10} \times 4 =$ _____

3. $\frac{2}{3} \times 10 =$ _____

4. $2 \times \frac{5}{6} =$ _____

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

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

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

E. $\frac{5}{9} \times 6 =$ _____

L. $\frac{5}{12} \times 9 =$ _____

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

O. $8 \times \frac{5}{6} =$ _____

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?

____ ____ ____ ____ ____ ____
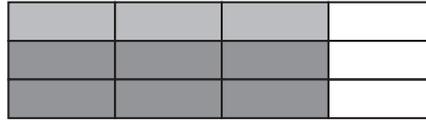1   2   3   4   5   6

Name _____

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: _____

A.

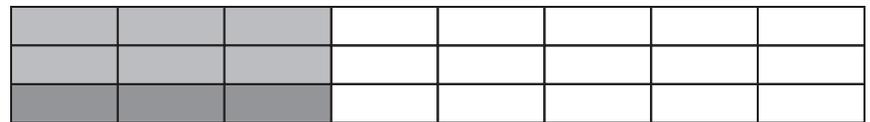**2.** $\frac{1}{2} \times \frac{3}{4} =$ _____

Model: _____

B.

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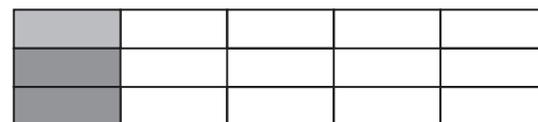
Model: _____

C.

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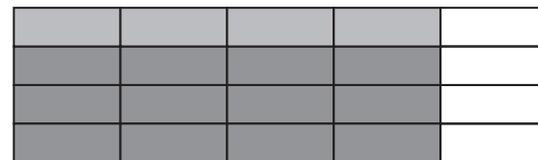
Model: _____

D.

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

Model: _____

E.

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

_____

_____

_____

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 _____

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.

_____

_____
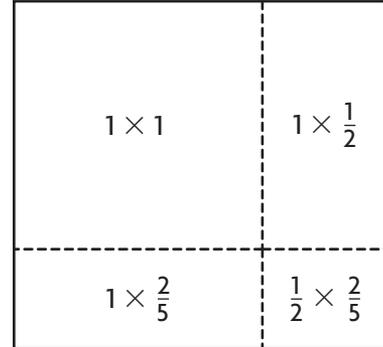
_____

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.

1×1	$1 \times \frac{1}{2}$
$1 \times \frac{2}{5}$	$\frac{1}{2} \times \frac{2}{5}$

   _____

   _____

   _____

Square Unit Tile Model

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

   _____

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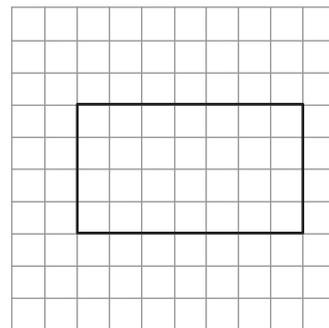
5. Use your multiplication expression from Exercise 4. What is the area of the diagram?

   _____

   _____

   _____

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

   _____

   _____

Name _____

Comparing Factors and Products

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

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

10. _____ × $4\frac{3}{7}$ 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 _____

Mixed Numbers with Unknown Numbers

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

1. $3\dfrac{2}{\boxed{}} \times \dfrac{\boxed{}}{3} = 2\dfrac{4}{15}$

Answer choices: **2   5**

2. $1\dfrac{7}{8} \times \dfrac{1}{4} = \dfrac{\boxed{}}{\boxed{}}$

Answer choices: **7   15   24   32**

3. $2\dfrac{\boxed{}}{6} \times \dfrac{\boxed{}}{4} = 2\dfrac{1}{8}$

Answer choices: **2   3   5**

4. $4\dfrac{1}{\boxed{}} \times 3\dfrac{3}{7} = 15\dfrac{3}{\boxed{}}$

Answer choices: **2   3   7**

5. $\boxed{}\dfrac{1}{3} \times \boxed{}\dfrac{9}{10} = 10\dfrac{2}{15}$

Answer choices: **1   5   6**

6. $2\dfrac{3}{8} \times \boxed{}\dfrac{1}{\boxed{}} = 15\dfrac{7}{16}$

Answer choices: **1   2   4   6**

7. $\boxed{}\dfrac{4}{5} \times \boxed{}\dfrac{1}{4} = \boxed{}\dfrac{17}{20}$

Answer choices: **1   3   5**

8. $2\dfrac{4}{\boxed{}} \times 4\dfrac{\boxed{}}{6} = 12\dfrac{\boxed{}}{7}$

Answer choices: **3   5   7**

9. $\boxed{}\dfrac{2}{3} \times \dfrac{\boxed{}}{4} = 1\dfrac{1}{\boxed{}}$

Answer choices: **1   4   6**

10. $\dfrac{3}{\boxed{}} \times \boxed{}\dfrac{1}{8} = 1\dfrac{7}{8}$

Answer choices: **3   5   6**

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

$8\dfrac{1}{\boxed{}} \times 1\dfrac{1}{3} = 11\dfrac{1}{3}$

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

_____

_____

_____

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.

   _____

   _____

   _____

   _____

   _____