

Name _____

Fraction Multiplication**COMMON CORE STANDARD—5NF.4a**
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Find the product. Write the product in simplest form.

$$1. \frac{4}{5} \times \frac{7}{8} = \frac{4 \times 7}{5 \times 8}$$

$$= \frac{28}{40}$$

$$= \frac{7}{10}$$

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

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

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

5. $\frac{1}{8} \times 20$

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

7. $\frac{6}{7} \times \frac{7}{9}$

8. $8 \times \frac{1}{9}$

9. $\frac{1}{14} \times 28$

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

11. Karen raked $\frac{3}{5}$ of the yard. Minni raked $\frac{1}{3}$ of the amount Karen raked. How much of the yard did Minni rake?

12. In the pet show, $\frac{3}{8}$ of the pets are dogs. Of the dogs, $\frac{2}{3}$ have long hair. What fraction of the pets are dogs with long hair?

Algebra Evaluate for the given value of the variable.

13. $\frac{7}{8} \times c$ for $c = 8$

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

15. $\frac{1}{2} \times s$ for $s = \frac{3}{10}$

16. $y \times 6$ for $y = \frac{2}{3}$

Problem Solving

17. Jason ran $\frac{5}{7}$ of the distance around the school track. Sara ran $\frac{4}{5}$ of Jason's distance. What fraction of the total distance around the track did Sara run?

18. A group of students attend a math club. Half of the students are boys and $\frac{4}{5}$ of the boys have brown eyes. What fraction of the group are boys with brown eyes?

Lesson Check (5.NF.4a)

1. Fritz attended band practice for $\frac{5}{6}$ hour. Then he went home and practiced for $\frac{2}{5}$ as long as band practice. How many minutes did he practice at home?
2. Darlene read $\frac{5}{8}$ of a 56-page book. How many pages did Darlene read?

Spiral Review (5.NBT.2, 5.NF.1, 5.NF.3, 5.NF.4a)

3. What is the quotient of $\frac{18}{1,000}$?
4. A machine produces 1,000 bowling pins per hour, each valued at \$8.37. What is the total value of the pins produced in 1 hour?

5. Keith had $8\frac{1}{2}$ cups of flour. He used $5\frac{2}{3}$ cups to make bread. How many cups of flour does Keith have left?
6. The Blue Lake Trail is $11\frac{3}{8}$ miles long. Gemma has hiked $2\frac{1}{2}$ miles each hour for 3 hours. How far is she from the end of the trail?

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Area and Mixed Numbers

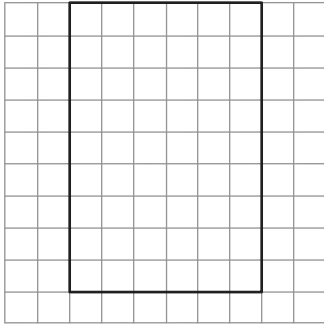


COMMON CORE STANDARD—5.NF.4b
Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Use the grid to find the area.

1. Let each square represent $\frac{1}{4}$ unit by $\frac{1}{4}$ unit.

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



54 squares cover the diagram.

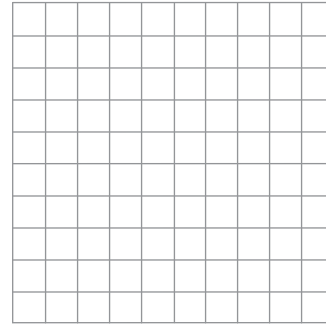
Each square is $\frac{1}{16}$ square unit.

The area of the diagram is

$$\underline{54} \times \frac{1}{16} = \frac{54}{16} = 3\frac{3}{8} \text{ square units.}$$

2. Let each square represent $\frac{1}{3}$ unit by $\frac{1}{3}$ unit.

$$1\frac{2}{3} \times 2\frac{1}{3} = \underline{\hspace{2cm}}$$



The area is _____ square units.

Use an area model to solve.

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

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

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

Problem Solving



6. Ava's bedroom rug is $2\frac{3}{4}$ feet long and $2\frac{1}{2}$ feet wide. What is the area of the rug?

7. A painting is $2\frac{2}{3}$ feet long and $1\frac{1}{2}$ feet high. What is the area of the painting?

Lesson Check (5.NF.4b)

1. The base of a fountain is rectangular. Its dimensions are $1\frac{2}{3}$ feet by $2\frac{2}{3}$ feet. What is the area of the base of the fountain?
2. Bill's living room floor is covered with carpet tiles. Each tile is $1\frac{1}{2}$ feet long by $2\frac{3}{5}$ feet wide. What is the area of one tile?

Spiral Review (5.OA.2, 5.NBT.5, 5.NBT.6, 5.NF.4a)

3. Lucy earned \$18 babysitting on Friday and \$20 babysitting on Saturday. On Sunday, she spent half of the money. Write an expression to match the words.
4. A grocery store clerk is putting cans of soup on the shelves. She has 12 boxes, which each contain 24 cans of soup. Altogether, how many cans of soup will the clerk put on the shelves?
5. What is the best estimate for the quotient $5,397 \div 62$?
6. There are 45 vehicles in a parking lot. Three fifths of the vehicles are minivans. How many of the vehicles in the parking lot are minivans?

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Compare Mixed Number Factors and Products**COMMON CORE STANDARDS—5.NF.5a, 5.NF.5b** Apply and extend previous understandings of multiplication and division to multiply and divide fractions.Complete the statement with *equal to*, *greater than*, or *less than*.

1. $\frac{2}{3} \times 1\frac{5}{8}$ will be **less than** $1\frac{5}{8}$.

2. $\frac{5}{5} \times 2\frac{3}{4}$ will be _____ $2\frac{3}{4}$.

Think: $1 \times 1\frac{5}{8}$ is $1\frac{5}{8}$.Since $\frac{2}{3}$ is less than 1,
 $\frac{2}{3} \times 1\frac{5}{8}$ will be less than $1\frac{5}{8}$.

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

4. $9 \times 1\frac{4}{5}$ will be _____ $1\frac{4}{5}$.

5. $1\frac{7}{8} \times 2\frac{3}{8}$ will be _____ $2\frac{3}{8}$.

6. $3\frac{4}{9} \times \frac{5}{9}$ will be _____ $3\frac{4}{9}$.

Problem Solving

7. Fraser is making a scale drawing of a dog house. The dimensions of the drawing will be $\frac{1}{8}$ of the dimensions of the actual doghouse. The height of the actual doghouse is $36\frac{3}{4}$ inches. Will the dimensions of Fraser's drawing be equal to, greater than, or less than the dimensions of the actual dog house?
8. Jorge has a recipe that calls for $2\frac{1}{3}$ cups of flour. He plans to make $1\frac{1}{2}$ times the recipe. Will the amount of flour Jorge needs be equal to, greater than, or less than the amount of flour his recipe calls for?

Lesson Check (5.NF.5a, 5.NF.5b)

1. Jenna skis $2\frac{1}{3}$ miles down the mountain. Her instructor skis $1\frac{1}{2}$ times as far. Does Jenna ski a shorter, greater, or the same distance as her instructor?
2. Suppose you multiply a fraction less than 1 by the mixed number $2\frac{3}{4}$. Will the product be less than, greater than, or equal to $2\frac{3}{4}$?

Spiral Review (NBT.2, 5.NBT.7, 5.NF.1)

3. Rectangular Washington County measures 15.9 miles by 9.1 miles. What is the county's area?
4. Marsha jogged 7.8 miles. Erica jogged 0.5 times as far. How far did Erica jog?

5. One bread recipe calls for $2\frac{1}{3}$ cups of flour. Another bread recipe calls for $2\frac{1}{2}$ cups of flour. Tim has 5 cups of flour. If he makes both recipes, how much flour will he have left over?
6. On Monday, it rained $1\frac{1}{4}$ inches. On Tuesday, it rained $\frac{3}{5}$ inch. How much more did it rain on Monday than on Tuesday?
