

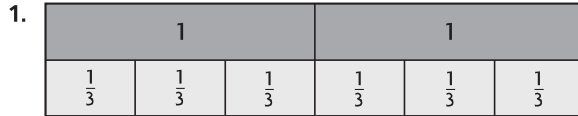
Name \_\_\_\_\_

## Divide Fractions and Whole Numbers

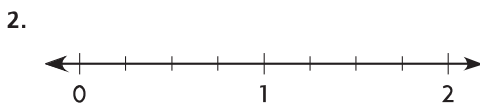
**COMMON CORE STANDARDS** CC.5.NF.7a, CC.5.NF.7b

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

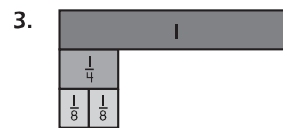
Divide and check the quotient.



$2 \div \frac{1}{3} = \underline{6}$  because  $\underline{6} \times \frac{1}{3} = 2$ .



$2 \div \frac{1}{4} = \underline{\quad}$  because  $\underline{\quad} \times \frac{1}{4} = 2$ .



$\frac{1}{4} \div 2 = \underline{\quad}$  because  $\underline{\quad} \times 2 = \frac{1}{4}$ .

Divide. Draw a number line or use fraction strips.

4.  $1 \div \frac{1}{5} = \underline{\quad}$

5.  $\frac{1}{6} \div 3 = \underline{\quad}$

6.  $4 \div \frac{1}{6} = \underline{\quad}$

7.  $3 \div \frac{1}{3} = \underline{\quad}$

8.  $\frac{1}{4} \div 6 = \underline{\quad}$

9.  $5 \div \frac{1}{4} = \underline{\quad}$

### Problem Solving

10. Amy can run  $\frac{1}{10}$  mile per minute. How many minutes will it take Amy to run 3 miles?

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11. Jeremy has 3 yards of ribbon to use for wrapping gifts. He cuts the ribbon into pieces that are  $\frac{1}{4}$  yard long. How many pieces of ribbon does Jeremy have?

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### Lesson Check (CC.5.NF.7a, CC.5.NF.7b)

- Kaley cuts half of a loaf of bread into 4 equal parts. What fraction of the whole loaf does each of the 4 parts represent?
  - $\frac{1}{8}$
  - $\frac{1}{6}$
  - $\frac{1}{4}$
  - $\frac{1}{2}$
- When you divide a fraction less than 1 by a whole number greater than 1, how does the quotient compare to the dividend?
  - The quotient is greater than the dividend.
  - The quotient is less than the dividend.
  - The quotient is equal to the dividend.
  - There is not enough information to answer the question.

### Spiral Review (CC.5.NF.1, CC.5.NF.4a, CC.5.NF.6)

- A recipe for chicken and rice calls for  $3\frac{1}{2}$  pounds of chicken. Lisa wants to adjust the recipe so that it yields  $1\frac{1}{2}$  times as much chicken and rice. How much chicken will she need? (Lesson 7.9)
  - 2 pounds
  - $2\frac{1}{3}$  pounds
  - 5 pounds
  - $5\frac{1}{4}$  pounds
- Tim and Sue share a pizza. Tim eats  $\frac{2}{3}$  of the pizza. Sue eats half as much of the pizza as Tim does. What fraction of the pizza does Sue eat? (Lesson 7.6)
  - $\frac{1}{3}$
  - $\frac{1}{2}$
  - $\frac{3}{5}$
  - $\frac{2}{3}$
- In gym class, you run  $\frac{3}{5}$  mile. Your coach runs 10 times that distance each day. How far does your coach run each day? (Lesson 7.3)
  - $\frac{7}{5}$  miles
  - $2\frac{3}{5}$  miles
  - 3 miles
  - 6 miles
- Sterling plants a tree that is  $4\frac{3}{4}$  feet tall. One year later, the tree is  $5\frac{2}{5}$  feet tall. How many feet did the tree grow? (Lesson 6.7)
  - $\frac{13}{20}$  foot
  - 8 feet
  - $10\frac{3}{20}$  feet
  - 13 feet

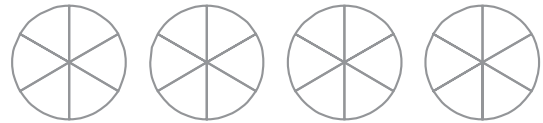
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**Problem Solving • Use Multiplication**

**COMMON CORE STANDARD** CC.5.NF.7b

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

1. Sebastian bakes 4 pies and cuts each pie into sixths. How many  $\frac{1}{6}$ -pie slices does he have?



**To find the total number of sixths in the 4 pies, multiply 4 by the number of sixths in each pie.**

$$4 \div \frac{1}{6} = 4 \times 6 = 24 \text{ one-sixth-pie slices}$$

2. Ali has 2 vegetable pizzas that she cuts into eighths. How many  $\frac{1}{8}$ -size pieces does she have?

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3. A baker has 6 loaves of bread. Each loaf weighs 1 pound. He cuts each loaf into thirds. How many  $\frac{1}{3}$ -pound loaves of bread does the chef now have?

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4. Suppose the baker has 4 loaves of bread and cuts the loaves into halves. How many  $\frac{1}{2}$ -pound loaves of bread would the baker have?

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5. Madalyn has 3 watermelons that she cuts into halves to give to her neighbors. How many neighbors will get a  $\frac{1}{2}$ -size piece of watermelon?

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6. A landscaper had 5 tons of rock to build decorative walls. He used  $\frac{1}{4}$  ton of rock for each wall. How many decorative walls did he build?

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### Lesson Check (CC.5.NF.7b)

- Julia has 12 pieces of fabric and cuts each piece into fourths. How many  $\frac{1}{4}$  pieces of fabric does she have?
  - 3
  - 4
  - 24
  - 48
- Josue has 3 cheesecakes that he cuts into thirds. How many  $\frac{1}{3}$ -size cheesecake pieces does he have?
  - 9
  - 6
  - 3
  - 1

### Spiral Review (CC.5.NBT.2, CC.5.NF.4a, CC.5.NF.7a, CC.5.NF.7b)

- Which of the following multiplication sentences can you use to help you find the quotient  $6 \div \frac{1}{4}$ ? (Lesson 8.1)
  - $6 \times \frac{1}{4} = \frac{6}{4}$
  - $\frac{1}{6} \times 4 = \frac{4}{6}$
  - $\frac{1}{6} \times \frac{1}{4} = \frac{1}{24}$
  - $24 \times \frac{1}{4} = 6$
- Ellie uses 12.5 pounds of potatoes to make mashed potatoes. She uses one-tenth as many pounds of butter as potatoes. How many pounds of butter does Ellie use? (Lesson 5.1)
  - 0.125 pound
  - 1.25 pounds
  - 125 pounds
  - 1,250 pounds
- Tiffany collects perfume bottles. She has 99 bottles in her collection. Two-thirds of her perfume bottles are made of crystal. How many of the perfume bottles in Tiffany's collection are made of crystal? (Lesson 7.1)
  - 11
  - 33
  - 66
  - 99
- Stephen makes a blueberry pie and cuts it into 6 slices. He eats  $\frac{1}{3}$  of the pie over the weekend. How many slices of pie does Stephen eat over the weekend? (Lesson 7.3)
  - 6
  - 3
  - 2
  - 1

Name \_\_\_\_\_

**Connect Fractions to Division****COMMON CORE STANDARD** CC.5.NF.3

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Complete the number sentence to solve.

1. Six students share 8 apples equally. How many apples does each student get?

$$8 \div 6 = \underline{\frac{8}{6}}, \text{ or } 1\frac{1}{3}$$

2. Ten boys share 7 cereal bars equally. What fraction of a cereal bar does each boy get?

$$7 \div 10 = \underline{\hspace{2cm}}$$

3. Eight friends share 12 pies equally. How many pies does each friend get?

$$12 \div 8 = \underline{\hspace{2cm}}$$

4. Three girls share 8 yards of fabric equally. How many yards of fabric does each girl get?

$$8 \div 3 = \underline{\hspace{2cm}}$$

5. Five bakers share 2 loaves of bread equally. What fraction of a loaf of bread does each baker get?

$$2 \div 5 = \underline{\hspace{2cm}}$$

6. Nine friends share 6 cookies equally. What fraction of a cookie does each friend get?

$$6 \div 9 = \underline{\hspace{2cm}}$$

7. Twelve students share 3 pizzas equally. What fraction of a pizza does each student get?

$$3 \div 12 = \underline{\hspace{2cm}}$$

8. Three sisters share 5 sandwiches equally. How many sandwiches does each sister get?

$$5 \div 3 = \underline{\hspace{2cm}}$$

**Problem Solving**

9. There are 12 students in a jewelry-making class and 8 sets of charms. What fraction of a set of charms will each student get?

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10. Five friends share 6 cheesecakes equally. How many cheesecakes will each friend get?

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### Lesson Check (CC.5.NF.3)

- Eight friends share 4 bunches of grapes equally. What fraction of a bunch of grapes does each friend get?
  - (A)  $\frac{1}{8}$
  - (B)  $\frac{1}{4}$
  - (C)  $\frac{1}{2}$
  - (D) 2
- Ten students share 8 pieces of poster board equally. What fraction of a piece of poster board does each student get?
  - (A)  $1\frac{4}{5}$
  - (B)  $1\frac{1}{4}$
  - (C)  $\frac{4}{5}$
  - (D)  $\frac{5}{9}$

### Spiral Review (CC.5.NBT.6, CC.5.NBT.7, CC.5.NF.7a, CC.5.NF.7b)

- Arturo has a log that is 4 yards long. He cuts the log into pieces that are  $\frac{1}{3}$ -yard long. How many pieces will Arturo have? (Lesson 8.1)
  - (A)  $\frac{3}{4}$
  - (B)  $\frac{4}{3}$
  - (C) 6
  - (D) 12
- Vu has 2 pizzas that he cuts into sixths. How many  $\frac{1}{6}$ -size pieces does he have? (Lesson 8.2)
  - (A) 12
  - (B) 6
  - (C) 3
  - (D)  $\frac{1}{3}$
- Kayaks rent for \$35 per day. Which expression can you use to find the cost in dollars of renting 3 kayaks for a day? (Lesson 1.3)
  - (A)  $(3 + 30) + (3 + 5)$
  - (B)  $(3 \times 30) + (3 \times 5)$
  - (C)  $(3 + 30) \times (3 + 5)$
  - (D)  $(3 \times 30) \times (3 \times 5)$
- Louisa is 152.7 centimeters tall. Her younger sister is 8.42 centimeters shorter than she is. How tall is Louisa's younger sister? (Lesson 3.9)
  - (A) 6.85 cm
  - (B) 144.28 cm
  - (C) 144.38 cm
  - (D) 154.28 cm

Name \_\_\_\_\_

**Fraction and Whole-Number Division**

COMMON CORE STANDARD CC.5.NF.7c

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Write a related multiplication sentence to solve.

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

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

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

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

$3 \times 2 = 6$  \_\_\_\_\_

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

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

7.  $\frac{1}{4} \div 6$

8.  $6 \div \frac{1}{5}$

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

10.  $4 \div \frac{1}{8}$

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


12.  $9 \div \frac{1}{2}$

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**Problem Solving** REAL WORLD

13. Isaac has a piece of rope that is 5 yards long. Into how many  $\frac{1}{2}$ -yard pieces of rope can Isaac cut the rope?

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14. Two friends share  $\frac{1}{2}$  of a pineapple equally. What fraction of a whole pineapple does each friend get?

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### Lesson Check (CC.5.NF.7c)

- Sean divides 8 cups of granola into  $\frac{1}{4}$ -cup servings. How many servings of granola does he have?
  - 32
  - 16
  - 2
  - $\frac{1}{2}$
- Brandy solved  $\frac{1}{6} \div 5$  by using a related multiplication expression. Which multiplication expression did she use?
  - $6 \times 5$
  - $6 \times \frac{1}{5}$
  - $\frac{1}{6} \times 5$
  - $\frac{1}{6} \times \frac{1}{5}$

### Spiral Review (CC.5.NF.2, CC.5.NF.3, CC.5.NF.4a, CC.5.NF.7b)

- Nine friends share 12 pounds of pecans equally. How many pounds of pecans does each friend get? (Lesson 8.3)
  - $\frac{3}{4}$  pound
  - $1\frac{1}{3}$  pounds
  - $1\frac{1}{2}$  pounds
  - $1\frac{2}{3}$  pounds
- Naomi needs 2 cups of sugar for a cake she is baking. She only has a  $\frac{1}{4}$ -cup measuring cup. How many times will Naomi need to fill the measuring cup to get 2 cups of sugar? (Lesson 8.2)
  - 2
  - 4
  - 6
  - 8
- A scientist has  $\frac{2}{3}$  liter of solution. He uses  $\frac{1}{2}$  of the solution for an experiment. How much solution does the scientist use for the experiment? (Lesson 7.6)
  - $\frac{1}{6}$  liter
  - $\frac{1}{4}$  liter
  - $\frac{1}{3}$  liter
  - $\frac{1}{2}$  liter
- Michaela caught 3 fish, which weigh a total of  $19\frac{1}{2}$  pounds. One fish weighs  $7\frac{5}{8}$  pounds and another weighs  $5\frac{3}{4}$  pounds. How much does the third fish weigh? (Lesson 6.9)
  - $6\frac{1}{8}$  pounds
  - $6\frac{5}{8}$  pounds
  - $7\frac{1}{8}$  pounds
  - $7\frac{5}{8}$  pounds



Name \_\_\_\_\_

**Interpret Division with Fractions****COMMON CORE STANDARD** CC.5.NF.7c

Apply and extend previous understandings of multiplication and division to multiply and divide fractions.

Write an equation to represent the problem. Then solve.

1. Daniel has a piece of wire that is  $\frac{1}{2}$  yard long. He cuts the wire into 3 equal pieces. What fraction of a yard is each piece?

$$\frac{1}{2} \div 3 = n; \frac{1}{2} \times \frac{1}{3} = n;$$

$$n = \frac{1}{6}; \frac{1}{6} \text{ yard}$$


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2. Vita has a piece of ribbon that is 5 meters long. She cuts the ribbon into pieces that are each  $\frac{1}{3}$  meter long. How many pieces does she cut?
- 

Draw a diagram to represent the problem. Then solve.

3. Leah has 3 muffins. She cuts each muffin into fourths. How many  $\frac{1}{4}$ -muffin pieces does she have?
- 

4. Two friends share  $\frac{1}{4}$  gallon of lemonade equally. What fraction of the gallon of lemonade does each friend get?
- 

5. Write a story problem to represent  $3 \div \frac{1}{2}$ .
- 
- 

6. Write a story problem to represent  $\frac{1}{4} \div 2$ .
- 
- 

**Problem Solving** 

7. Spencer has  $\frac{1}{3}$  pound of nuts. He divides the nuts equally into 4 bags. What fraction of a pound of nuts is in each bag?
- 

8. Humma has 3 apples. She slices each apple into eighths. How many  $\frac{1}{8}$ -apple slices does she have?
-

### Lesson Check (CC.5.NF.7c)

- Abigail has  $\frac{1}{2}$  gallon of orange juice. She pours the same amount of the juice into each of 6 glasses. Which equation represents the fraction of a gallon of orange juice in each glass?
  - $6 \div \frac{1}{2} = n$
  - $6 \div 2 = n$
  - $\frac{1}{2} \div \frac{1}{6} = n$
  - $\frac{1}{2} \div 6 = n$
- Which situation can be represented by  $4 \div \frac{1}{2}$ ?
  - Riley has a piece of wire that is  $\frac{1}{2}$  yard long. He cuts it into fourths. How long is each piece of wire?
  - Riley has a piece of wire that is 4 yards long. He cuts it into pieces that are  $\frac{1}{2}$  yard long. How many pieces of wire does Riley have?
  - Riley has 4 pieces of wire. Each piece is  $\frac{1}{2}$  yard long. How much wire does Riley have in all?
  - Riley has a piece of wire that is 4 yards long. He cuts it in half. How long is each piece of wire?

### Spiral Review (CC.5.NF.1, CC.5.NF.3, CC.5.NF.4a, CC.5.NF.6)

- Hannah buys  $\frac{2}{3}$  pound of roast beef. She uses  $\frac{1}{4}$  pound to make a sandwich for lunch. How much roast beef does she have left? (Lesson 6.5)
  - $\frac{5}{12}$  pound
  - $\frac{1}{2}$  pound
  - $\frac{11}{12}$  pound
  - 2 pounds
- Alex buys  $2\frac{1}{2}$  pounds of grapes. He buys  $1\frac{1}{4}$  times as many pounds of apples as grapes. How many pounds of apples does Alex buy? (Lesson 7.9)
  - $1\frac{1}{4}$  pounds
  - $3\frac{1}{8}$  pounds
  - $3\frac{1}{3}$  pounds
  - $3\frac{3}{4}$  pounds
- Maritza's car has 16 gallons of gas in the tank. She uses  $\frac{3}{4}$  of the gas. How many gallons of gas does Maritza use? (Lesson 7.3)
  - 4 gallons
  - $5\frac{1}{4}$  gallons
  - 12 gallons
  - $21\frac{1}{3}$  gallons
- Jaime has a board that is 8 feet long. He cuts the board into three equal pieces. How long is each piece? (Lesson 8.3)
  - $\frac{3}{8}$  foot
  - $1\frac{2}{3}$  feet
  - $2\frac{2}{3}$  feet
  - 24 feet

Name \_\_\_\_\_

## Chapter 8 Extra Practice

### Lesson 8.1

Divide. Draw a number line or use fraction strips.

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

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

3.  $4 \div \frac{1}{5} =$  \_\_\_\_\_

4.  $3 \div \frac{1}{2} =$  \_\_\_\_\_

5.  $\frac{1}{8} \div 5 =$  \_\_\_\_\_

6.  $\frac{1}{9} \div 3 =$  \_\_\_\_\_

7.  $5 \div \frac{1}{6} =$  \_\_\_\_\_

8.  $8 \div \frac{1}{3} =$  \_\_\_\_\_

9.  $\frac{1}{5} \div 5 =$  \_\_\_\_\_

### Lesson 8.2

Draw a diagram to solve.

1. A baker has 6 small bags of flour. Each bag weighs 1 pound. She divides each bag into thirds. How many  $\frac{1}{3}$ -pound bags of flour does the baker have?

2. Merrill cuts 6 apple pies into halves. How many  $\frac{1}{2}$ -size pie pieces does she have?

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## Lesson 8.3

Complete the number sentence to solve.

1. Three students share 5 peaches equally.  
How many peaches does each student get?

$$5 \div 3 = \underline{\hspace{2cm}}$$

3. Ten cousins share 3 pizzas equally. What fraction of a pizza does each cousin get?

$$3 \div 10 = \underline{\hspace{2cm}}$$

2. Six friends share 4 sandwiches equally. What fraction of a sandwich does each friend get?

$$4 \div 6 = \underline{\hspace{2cm}}$$

4. Four boys share 9 yards of fishing wire equally. How many yards of fishing wire does each boy get?

$$9 \div 4 = \underline{\hspace{2cm}}$$

## Lesson 8.4

Write a related multiplication expression to solve.

1.  $6 \div \frac{1}{4}$

2.  $9 \div \frac{1}{3}$

3.  $\frac{1}{6} \div 7$

4.  $\frac{1}{4} \div 10$

## Lesson 8.5

1. Write an equation to represent the problem. Then solve.

Luz has  $\frac{1}{3}$  pound of cherries. She divides the cherries equally into 2 bags. What fraction of a pound of cherries is in each bag?

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2. Draw a diagram to represent the problem. Then solve.

Tran has 4 submarine sandwiches. He cuts each sandwich into thirds. How many  $\frac{1}{3}$ -sandwich pieces does he have?

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