

Dear Family,

During the next few weeks, our math class will be learning how to add and subtract fractions and mixed numbers. First, we will use models to find the sums or the differences. Then we will record equations to match our models. Finally, we will add and subtract without using models.

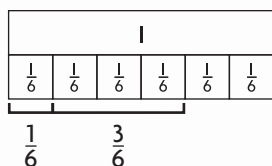
You can expect to see homework that provides practice adding and subtracting fractions with and without models.

Here is a sample of how your child will be taught to add fractions using fraction strips.

### **MODEL** Add Fractions Using Models

This is how we will be adding fractions using fraction strips.

Model  $\frac{1}{6} + \frac{3}{6}$



#### STEP 1

Each section represents 1 sixth. How many sixths are there in all?  
4 sixths

#### STEP 2

Write the number of sixths as a fraction.

$$4 \text{ sixths} = \frac{4}{6}$$

$$\frac{1}{6} + \frac{3}{6} = \frac{4}{6}$$

### Activity

Have your child use measuring cups to practice addition and subtraction of fractions. For example, to model  $\frac{1}{4} + \frac{3}{4}$ , have your child use rice to fill one measuring cup to the  $\frac{1}{4}$ -cup mark and another measuring cup to the  $\frac{3}{4}$ -cup mark. Then ask him or her to combine the amounts to find the sum,  $\frac{4}{4}$  or 1 whole cup.

### Vocabulary

**denominator** The number in a fraction that tells how many equal parts are in the whole or in the group

**fraction** A number that names a part of a whole or part of a group

**mixed number** A number represented by a whole number and a fraction

**numerator** The number in a fraction that tells how many parts of the whole or group are being considered

**unit fraction** A fraction that has a numerator of 1

### Tips

#### Renaming as a Mixed Number

When the numerator is greater than the denominator, you can rename the sum or the difference as a mixed number.

$$\begin{aligned} \frac{9}{8} &= \frac{8}{8} + \frac{1}{8} \\ &= 1 + \frac{1}{8} \\ &= 1\frac{1}{8} \end{aligned}$$

# Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas estudiaremos la suma y resta de fracciones y números mixtos. Primero usaremos modelos para hallar las sumas o las diferencias. Después haremos ecuaciones que se ajusten a nuestros modelos. Finalmente, sumaremos y restaremos sin usar modelos.

Llevaré a casa tareas con actividades para practicar la suma y la resta de fracciones con y sin modelos.

Este es un ejemplo de la manera como aprenderemos a sumar fracciones usando tiras de fracciones.

## Vocabulario

**denominador** El número de una fracción que dice cuántas partes iguales hay en el todo o en el grupo

**fracción** Un número que nombra una parte de un todo o una parte de un grupo

**número mixto** Un número representado por un número entero y una fracción

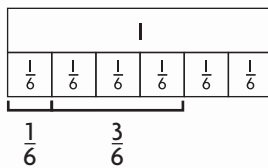
**numerador** El número de una fracción que dice cuántas partes del todo o de un grupo están siendo consideradas

**fracción unitaria** Una fracción cuyo numerador es 1

### **MODELO** Sumar fracciones usando modelos

Así sumaremos fracciones usando tiras de fracciones.

Representa  $\frac{1}{6} + \frac{3}{6}$ .



**PASO 1**

Cada sección representa 1 sexto.  
¿Cuántos sextos hay en total?

4 sextos

**PASO 2**

Escribe el número de sextos como una fracción.

$$4 \text{ sextos} = \frac{4}{6}$$

$$\frac{1}{6} + \frac{3}{6} = \frac{4}{6}$$

**Pistas**

**Expresar como un número mixto**

Cuando el numerador es mayor que el denominador, puedes expresar la suma o la diferencia como un número mixto.

$$\begin{aligned} \frac{9}{8} &= \frac{8}{8} + \frac{1}{8} \\ &= 1 + \frac{1}{8} \\ &= 1\frac{1}{8} \end{aligned}$$

## Actividad

Pida a su <sup>hijo</sup><sub>a</sub> que use tazas de medir para practicar la suma y la resta de fracciones. Por ejemplo, para hacer un modelo de  $\frac{1}{4} + \frac{3}{4}$ , pida a su hijo/a que use arroz para llenar una taza de medir hasta la marca de  $\frac{1}{4}$  y otra hasta la marca de  $\frac{3}{4}$ . Luego pídale que combine las cantidades para hallar la suma,  $\frac{4}{4}$  o 1 taza completa.

Name \_\_\_\_\_

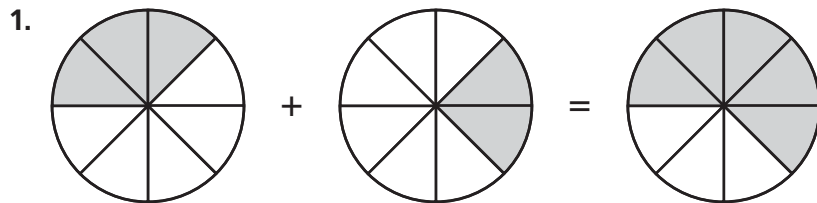
## Add and Subtract Parts of a Whole



COMMON CORE STANDARD MACC.4.NF.2.3a

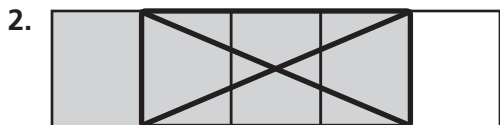
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Use the model to write an equation.

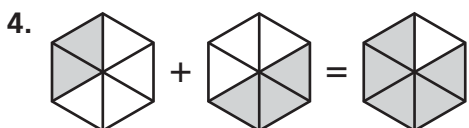


Think:  $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$

$\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$



Use the model to solve the equation.



$\frac{2}{6} + \frac{3}{6} =$  \_\_\_\_\_

$\frac{3}{5} - \frac{2}{5} =$  \_\_\_\_\_

### Problem Solving **REAL WORLD**

6. Jake ate  $\frac{4}{8}$  of a pizza. Millie ate  $\frac{3}{8}$  of the same pizza. How much of the pizza was eaten by Jake and Millie?

\_\_\_\_\_

7. Kate ate  $\frac{1}{4}$  of her orange. Ben ate  $\frac{2}{4}$  of his banana. Did Kate and Ben eat  $\frac{1}{4} + \frac{2}{4} = \frac{3}{4}$  of their fruit? **Explain.**

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### Lesson Check (MACC.4.NF.2.3a)

- A whole pie is cut into 8 equal slices. Three of the slices are served. How much of the pie is left?
  - (A)  $\frac{1}{8}$
  - (B)  $\frac{3}{8}$
  - (C)  $\frac{5}{8}$
  - (D)  $\frac{7}{8}$
- An orange is divided into 6 equal wedges. Jody eats 1 wedge. Then she eats 3 more wedges. How much of the orange did Jody eat?
  - (A)  $\frac{1}{6}$
  - (B)  $\frac{4}{6}$
  - (C)  $\frac{5}{6}$
  - (D)  $\frac{6}{6}$

### Spiral Review (MACC.4.OA.3.5, MACC.4.NBT.2.5, MACC.4.NF.1.1, MACC.4.NF.1.2)

- Which list of distances is in order from least to greatest? (Lesson 6.8)
  - (A)  $\frac{1}{8}$  mile,  $\frac{3}{16}$  mile,  $\frac{3}{4}$  mile
  - (B)  $\frac{3}{4}$  mile,  $\frac{1}{8}$  mile,  $\frac{3}{16}$  mile
  - (C)  $\frac{1}{8}$  mile,  $\frac{3}{4}$  mile,  $\frac{3}{16}$  mile
  - (D)  $\frac{3}{16}$  mile,  $\frac{1}{8}$  mile,  $\frac{3}{4}$  mile
- Jeremy walked  $\frac{6}{8}$  of the way to school and ran the rest of the way. What fraction, in simplest form, shows the part of the way that Jeremy walked? (Lesson 6.3)
  - (A)  $\frac{1}{4}$
  - (B)  $\frac{3}{8}$
  - (C)  $\frac{1}{2}$
  - (D)  $\frac{3}{4}$
- An elevator starts on the 100th floor of a building. It descends 4 floors every 10 seconds. At what floor will the elevator be 60 seconds after it starts? (Lesson 5.6)
  - (A) 60th floor
  - (B) 66th floor
  - (C) 72nd floor
  - (D) 76th floor
- For a school play, the teacher asked the class to set up chairs in 20 rows with 25 chairs in each row. After setting up all the chairs, they were 5 chairs short. How many chairs did the class set up? (Lesson 3.7)
  - (A) 400
  - (B) 450
  - (C) 495
  - (D) 500

Name \_\_\_\_\_

## Write Fractions as Sums



COMMON CORE STANDARD MACC.4.NF.2.3b

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Write the fraction as a sum of unit fractions.

1.  $\frac{4}{5} = \frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$

Think: Add  $\frac{1}{5}$  four times.

2.  $\frac{3}{8} =$  \_\_\_\_\_

3.  $\frac{6}{12} =$  \_\_\_\_\_

4.  $\frac{4}{4} =$  \_\_\_\_\_

Write the fraction as a sum of fractions three different ways.

5.  $\frac{7}{10}$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

6.  $\frac{6}{6}$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Problem Solving REAL WORLD

7. Miguel's teacher asks him to color  $\frac{4}{8}$  of his grid. He must use 3 colors: red, blue, and green. There must be more green sections than red sections. How can Miguel color the sections of his grid to follow all the rules?

\_\_\_\_\_

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\_\_\_\_\_

8. Petra is asked to color  $\frac{6}{6}$  of her grid. She must use 3 colors: blue, red, and pink. There must be more blue sections than red sections or pink sections. What are the different ways Petra can color the sections of her grid and follow all the rules?

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\_\_\_\_\_

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## Lesson Check (MACC.4.NF.2.3b)

- Jorge wants to write  $\frac{4}{5}$  as a sum of unit fractions. Which of the following should he write?
  - $\frac{3}{5} + \frac{1}{5}$
  - $\frac{2}{5} + \frac{2}{5}$
  - $\frac{1}{5} + \frac{1}{5} + \frac{2}{5}$
  - $\frac{1}{5} + \frac{1}{5} + \frac{1}{5} + \frac{1}{5}$
- Which expression is equivalent to  $\frac{7}{8}$ ?
  - $\frac{5}{8} + \frac{2}{8} + \frac{1}{8}$
  - $\frac{3}{8} + \frac{3}{8} + \frac{1}{8} + \frac{1}{8}$
  - $\frac{4}{8} + \frac{2}{8} + \frac{1}{8}$
  - $\frac{4}{8} + \frac{2}{8} + \frac{2}{8}$

## Spiral Review (MACC.4.OA.1.3, MACC.4.OA.2.4, MACC.4.NBT.2.6, MACC.4.NF.2.3a)

- An apple is cut into 6 equal slices. Nancy eats 2 of the slices. What fraction of the apple is left? (Lesson 7.1)
  - $\frac{1}{6}$
  - $\frac{2}{6}$
  - $\frac{3}{6}$
  - $\frac{4}{6}$
- Which of the following numbers is a prime number? (Lesson 5.5)
  - 1
  - 11
  - 21
  - 51
- A teacher has a bag of 100 unit cubes. She gives an equal number of cubes to each of the 7 groups in her class. She gives each group as many cubes as she can. How many unit cubes are left over? (Lesson 4.8)
  - 1
  - 2
  - 3
  - 6
- Jessie sorted the coins in her bank. She made 7 stacks of 6 dimes and 8 stacks of 5 nickels. She then found 1 dime and 1 nickel. How many dimes and nickels does Jessie have in all? (Lesson 2.12)
  - 84
  - 82
  - 80
  - 28

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## Add Fractions Using Models

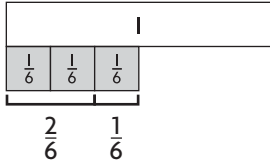


COMMON CORE STANDARD MACC.4.NF.2.3d

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the sum. Use fraction strips to help.

1.  $\frac{2}{6} + \frac{1}{6} = \frac{3}{6}$



2.  $\frac{4}{10} + \frac{5}{10} =$  \_\_\_\_\_

3.  $\frac{1}{3} + \frac{2}{3} =$  \_\_\_\_\_

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

5.  $\frac{2}{12} + \frac{4}{12} =$  \_\_\_\_\_

6.  $\frac{1}{6} + \frac{2}{6} =$  \_\_\_\_\_

7.  $\frac{3}{12} + \frac{9}{12} =$  \_\_\_\_\_

8.  $\frac{3}{8} + \frac{4}{8} =$  \_\_\_\_\_

9.  $\frac{3}{4} + \frac{1}{4} =$  \_\_\_\_\_

10.  $\frac{1}{5} + \frac{2}{5} =$  \_\_\_\_\_

## Problem Solving **REAL WORLD**

11. Lola walks  $\frac{4}{10}$  mile to her friend's house. Then she walks  $\frac{5}{10}$  mile to the store. How far does she walk in all?

\_\_\_\_\_

12. Evan eats  $\frac{1}{8}$  of a pan of lasagna and his brother eats  $\frac{2}{8}$  of it. What fraction of the pan of lasagna do they eat in all?

\_\_\_\_\_

13. Jacqueline buys  $\frac{2}{4}$  yard of green ribbon and  $\frac{1}{4}$  yard of pink ribbon. How many yards of ribbon does she buy in all?

\_\_\_\_\_

14. Shu mixes  $\frac{2}{3}$  pound of peanuts with  $\frac{1}{3}$  pound of almonds. How many pounds of nuts does Shu mix in all?

\_\_\_\_\_

### Lesson Check (MACC.4.NF.2.3d)

- Mary Jane has  $\frac{3}{8}$  of a medium pizza left. Hector has  $\frac{2}{8}$  of another medium pizza left. How much pizza do they have altogether?
 

(A) $\frac{1}{8}$	(C) $\frac{5}{8}$
(B) $\frac{4}{8}$	(D) $\frac{6}{8}$
- Jeannie ate  $\frac{1}{4}$  of an apple. Kelly ate  $\frac{2}{4}$  of the apple. How much did they eat in all?
 

(A) $\frac{1}{4}$	(C) $\frac{3}{8}$
(B) $\frac{2}{8}$	(D) $\frac{3}{4}$

### Spiral Review (MACC.4.NBT.2.5, MACC.4.NBT.2.6, MACC.4.NF.1.1)

- Karen is making 14 different kinds of greeting cards. She is making 12 of each kind. How many greeting cards is she making? (Lesson 2.10)
  - (A) 120
  - (B) 132
  - (C) 156
  - (D) 168
- Jefferson works part time and earns \$1,520 in four weeks. How much does he earn each week? (Lesson 4.11)
  - (A) \$305
  - (B) \$350
  - (C) \$380
  - (D) \$385
- By installing efficient water fixtures, the average American can reduce water use to about 45 gallons of water per day. Using such water fixtures, about how many gallons of water would the average American use in December? (Lesson 3.2)
  - (A) about 1,200 gallons
  - (B) about 1,500 gallons
  - (C) about 1,600 gallons
  - (D) about 2,000 gallons
- Collin is making a bulletin board and note center. He is using square cork tiles and square dry-erase tiles. One of every 3 squares will be a cork square. If he uses 12 squares for the center, how many will be cork squares? (Lesson 6.5)
  - (A) 3
  - (B) 4
  - (C) 6
  - (D) 8



Name \_\_\_\_\_

## Subtract Fractions Using Models



COMMON CORE STANDARD **MACC.4.NF.2.3d**

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Subtract. Use fraction strips to help.

1.  $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$

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

3.  $\frac{5}{6} - \frac{1}{6} =$  \_\_\_\_\_

4.  $\frac{7}{8} - \frac{1}{8} =$  \_\_\_\_\_

5.  $1 - \frac{2}{3} =$  \_\_\_\_\_

6.  $\frac{8}{10} - \frac{2}{10} =$  \_\_\_\_\_

7.  $\frac{3}{4} - \frac{1}{4} =$  \_\_\_\_\_

8.  $\frac{7}{6} - \frac{5}{6} =$  \_\_\_\_\_

## Problem Solving **REAL WORLD**

Use the table for 9 and 10.

9. Ena is making trail mix. She buys the items shown in the table. How many more pounds of pretzels than raisins does she buy?

\_\_\_\_\_

10. How many more pounds of granola than banana chips does she buy?

\_\_\_\_\_

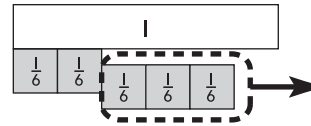
Item	Weight (in pounds)
Pretzels	$\frac{7}{8}$
Peanuts	$\frac{4}{8}$
Raisins	$\frac{2}{8}$
Banana Chips	$\frac{3}{8}$
Granola	$\frac{5}{8}$

**Lesson Check** (MACC.4.NF.2.3d)

1. Lee reads for  $\frac{3}{4}$  hour in the morning and  $\frac{2}{4}$  hour in the afternoon. How much longer does Lee read in the morning than in the afternoon?

- (A) 5 hours
- (B)  $\frac{5}{4}$  hours
- (C)  $\frac{4}{4}$  hour
- (D)  $\frac{1}{4}$  hour

2. Which equation does the model below represent?



- (A)  $\frac{3}{6} - \frac{2}{6} = \frac{1}{6}$
- (B)  $\frac{2}{6} - \frac{1}{6} = \frac{1}{6}$
- (C)  $\frac{5}{6} - \frac{3}{6} = \frac{2}{6}$
- (D)  $1 - \frac{3}{6} = \frac{3}{6}$

**Spiral Review** (MACC.4.NBT.2.5, MACC.4.NF.1.2, MACC.4.NF.2.3d)

3. A city received 2 inches of rain each day for 3 days. The meteorologist said that if the rain had been snow, each inch of rain would have been 10 inches of snow. How much snow would that city have received in the 3 days? (Lesson 2.8)

- (A) 20 inches
- (B) 30 inches
- (C) 50 inches
- (D) 60 inches

4. At a party there were four large submarine sandwiches, all the same size. During the party,  $\frac{2}{3}$  of the chicken sandwich,  $\frac{3}{4}$  of the tuna sandwich,  $\frac{7}{12}$  of the roast beef sandwich, and  $\frac{5}{6}$  of the veggie sandwich were eaten. Which sandwich had the least amount left? (Lesson 6.8)

- (A) chicken
- (B) tuna
- (C) roast beef
- (D) veggie

5. Deena uses  $\frac{3}{8}$  cup milk and  $\frac{2}{8}$  cup oil in a recipe. How much liquid does she use in all? (Lesson 7.3)

- (A)  $\frac{1}{8}$  cup
- (B)  $\frac{5}{8}$  cup
- (C)  $\frac{6}{8}$  cup
- (D) 5 cups

6. In the car lot,  $\frac{4}{12}$  of the cars are white and  $\frac{3}{12}$  of the cars are blue. What fraction of the cars in the lot are either white or blue? (Lesson 7.3)

- (A)  $\frac{1}{12}$
- (B)  $\frac{7}{24}$
- (C)  $\frac{7}{12}$
- (D) 7

Name \_\_\_\_\_

## Add and Subtract Fractions

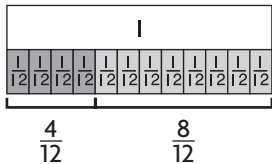


COMMON CORE STANDARDS MACC.4.NF.2.3d

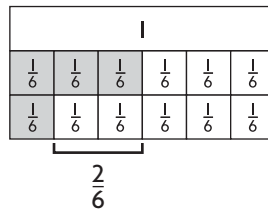
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the sum or difference.

1.  $\frac{4}{12} + \frac{8}{12} = \frac{12}{12}$



2.  $\frac{3}{6} - \frac{1}{6} =$  \_\_\_\_\_



3.  $\frac{4}{5} - \frac{3}{5} =$  \_\_\_\_\_

4.  $\frac{6}{10} + \frac{3}{10} =$  \_\_\_\_\_

5.  $1 - \frac{3}{8} =$  \_\_\_\_\_

6.  $\frac{1}{4} + \frac{2}{4} =$  \_\_\_\_\_

7.  $\frac{9}{12} - \frac{5}{12} =$  \_\_\_\_\_

8.  $\frac{5}{6} - \frac{2}{6} =$  \_\_\_\_\_

9.  $\frac{2}{3} + \frac{1}{3} =$  \_\_\_\_\_

## Problem Solving **REAL WORLD**

Use the table for 10 and 11.

10. Guy finds how far his house is from several locations and makes the table shown. How much farther away from Guy's house is the library than the cafe?

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11. If Guy walks from his house to school and back, how far does he walk?

\_\_\_\_\_

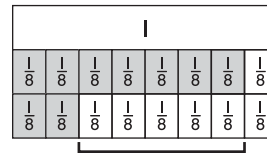
Distance from Guy's House	
Location	Distance (in miles)
Library	$\frac{9}{10}$
School	$\frac{5}{10}$
Store	$\frac{7}{10}$
Cafe	$\frac{4}{10}$
Yogurt Shop	$\frac{6}{10}$

**Lesson Check** (MACC.4.NF.2.3d)

1. Mr. Angulo buys  $\frac{5}{8}$  pound of red grapes and  $\frac{3}{8}$  pound of green grapes. How many pounds of grapes did Mr. Angulo buy in all?

- (A)  $\frac{1}{8}$  pound
- (B)  $\frac{2}{8}$  pound
- (C) 1 pound
- (D) 2 pounds

2. Which equation does the model below represent?



- (A)  $\frac{7}{8} + \frac{2}{8} = \frac{9}{8}$
- (B)  $\frac{5}{8} - \frac{2}{8} = \frac{3}{8}$
- (C)  $\frac{8}{8} - \frac{5}{8} = \frac{3}{8}$
- (D)  $\frac{7}{8} - \frac{2}{8} = \frac{5}{8}$

**Spiral Review** (MACC.4.OA.1.3, MACC.4.NBT.2.5, MACC.4.NF.2.3d)

3. There are 6 muffins in a package. How many packages will be needed to feed 48 people if each person has 2 muffins?

(Lesson 4.12)

- (A) 4
- (B) 8
- (C) 16
- (D) 24

4. Camp Oaks gets 32 boxes of orange juice and 56 boxes of apple juice. Each shelf in the cupboard can hold 8 boxes of juice. What is the least number of shelves needed for all the juice boxes? (Lesson 4.12)

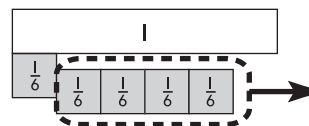
- (A) 4
- (B) 7
- (C) 11
- (D) 88

5. A machine makes 18 parts each hour. If the machine operates 24 hours a day, how many parts can it make in one day?

(Lesson 3.6)

- (A) 302
- (B) 332
- (C) 362
- (D) 432

6. Which equation does the model below represent? (Lesson 7.4)



- (A)  $\frac{5}{6} - \frac{4}{6} = \frac{1}{6}$
- (B)  $\frac{4}{5} - \frac{1}{5} = \frac{3}{5}$
- (C)  $\frac{5}{5} - \frac{4}{5} = \frac{1}{5}$
- (D)  $\frac{6}{6} - \frac{4}{6} = \frac{2}{6}$

Name \_\_\_\_\_

## Rename Fractions and Mixed Numbers



COMMON CORE STANDARD MACC.4.NF.2.3b

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Write the mixed number as a fraction.

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

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

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

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

Think: Find  $\frac{5}{5} + \frac{5}{5} + \frac{3}{5}$ .

$$\frac{13}{5}$$

5.  $4\frac{1}{8}$

6.  $1\frac{7}{10}$

7.  $5\frac{1}{2}$

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

Write the fraction as a mixed number.

9.  $\frac{31}{6}$

10.  $\frac{20}{10}$

11.  $\frac{15}{8}$

12.  $\frac{13}{6}$

13.  $\frac{23}{10}$

14.  $\frac{19}{5}$

15.  $\frac{11}{3}$

16.  $\frac{9}{2}$

### Problem Solving REAL WORLD

17. A recipe calls for  $2\frac{2}{4}$  cups of raisins, but Julie only has a  $\frac{1}{4}$ -cup measuring cup. How many  $\frac{1}{4}$  cups does Julie need to measure out  $2\frac{2}{4}$  cups of raisins?

18. If Julie needs  $3\frac{1}{4}$  cups of oatmeal, how many  $\frac{1}{4}$  cups of oatmeal will she use?

## Lesson Check (MACC.4.NF.2.3b)

- Which of the following is equivalent to  $\frac{16}{3}$ ?
 

(A) $3\frac{1}{5}$	(C) $5\frac{1}{3}$
(B) $3\frac{2}{5}$	(D) $5\frac{6}{3}$
- Stacey filled her  $\frac{1}{2}$ -cup measuring cup seven times to have enough flour for a cake recipe. How much flour does the cake recipe call for?
 

(A) 3 cups	(C) 4 cups
(B) $3\frac{1}{2}$ cups	(D) $4\frac{1}{2}$ cups

## Spiral Review (MACC.4.NBT.2.5, MACC.4.NBT.2.6, MACC.4.NF.1.1, MACC.4.NF.2.3d)

- Becki put some stamps into her stamp collection book. She put 14 stamps on each page. If she completely filled 16 pages, how many stamps did she put in the book? (Lesson 3.5)
 

(A) 224
(B) 240
(C) 272
(D) 275
- Brian is driving 324 miles to visit some friends. He wants to get there in 6 hours. How many miles does he need to drive each hour? (Lesson 4.10)
 

(A) 48 miles
(B) 50 miles
(C) 52 miles
(D) 54 miles
- During a bike challenge, riders have to collect various colored ribbons. Each  $\frac{1}{2}$  mile they collect a red ribbon, each  $\frac{1}{8}$  mile they collect a green ribbon, and each  $\frac{1}{4}$  mile they collect a blue ribbon. Which colors of ribbons will be collected at the  $\frac{3}{4}$  mile marker? (Lesson 6.5)
 

(A) red and green
(B) red and blue
(C) green and blue
(D) red, green, and blue
- Stephanie had  $\frac{7}{8}$  pound of bird seed. She used  $\frac{3}{8}$  pound to fill a bird feeder. How much bird seed does Stephanie have left? (Lesson 7.5)
 

(A) $\frac{3}{8}$ pound
(B) $\frac{4}{8}$ pound
(C) 1 pound
(D) $\frac{10}{8}$ pounds

Name \_\_\_\_\_

**Add and Subtract Mixed Numbers**

COMMON CORE STANDARD MACC.4.NF.2.3c

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the sum. Write the sum as a mixed number, so the fractional part is less than 1.

$$\begin{array}{r} 1. \quad 6\frac{4}{5} \\ + 3\frac{3}{5} \\ \hline 9\frac{7}{5} = 10\frac{2}{5} \end{array}$$

$$\begin{array}{r} 2. \quad 4\frac{1}{2} \\ + 2\frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 2\frac{2}{3} \\ + 3\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 6\frac{4}{5} \\ + 7\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 9\frac{3}{6} \\ + 2\frac{2}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{4}{12} \\ + 3\frac{6}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 4\frac{3}{8} \\ + 1\frac{5}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 9\frac{5}{10} \\ + 6\frac{3}{10} \\ \hline \end{array}$$

Find the difference.

$$\begin{array}{r} 9. \quad 6\frac{7}{8} \\ - 4\frac{3}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 4\frac{2}{3} \\ - 3\frac{1}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 6\frac{4}{5} \\ - 3\frac{3}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 7\frac{3}{4} \\ - 2\frac{1}{4} \\ \hline \end{array}$$

**Problem Solving**  **REAL WORLD**

13. James wants to send two gifts by mail. One package weighs  $2\frac{3}{4}$  pounds. The other package weighs  $1\frac{3}{4}$  pounds. What is the total weight of the packages?

14. Tierra bought  $4\frac{3}{8}$  yards blue ribbon and  $2\frac{1}{8}$  yards yellow ribbon for a craft project. How much more blue ribbon than yellow ribbon did Tierra buy?

## Lesson Check (MACC.4.NF.2.3c)

- Brad has two lengths of copper pipe to fit together. One has a length of  $2\frac{5}{12}$  feet and the other has a length of  $3\frac{7}{12}$  feet. How many feet of pipe does he have in all?
 

(A) 5 feet                       (C)  $5\frac{10}{12}$  feet  
 (B)  $5\frac{6}{12}$  feet                 (D) 6 feet
- A pattern calls for  $2\frac{1}{4}$  yards of material and  $1\frac{1}{4}$  yards of lining. How much total fabric is needed?
 

(A)  $1\frac{2}{4}$  yards                 (C)  $3\frac{1}{4}$  yards  
 (B) 3 yards                     (D)  $3\frac{2}{4}$  yards

## Spiral Review (MACC.4.OA.1.3, MACC.4.NBT.2.4, MACC.4.NBT.2.5, MACC.4.NBT.2.6)

- Shanice has 23 baseball trading cards of star players. She agrees to sell them for \$16 each. How much will she get for the cards? (Lesson 3.3)

(A) \$258  
 (B) \$358  
 (C) \$368  
 (D) \$468
- Nanci is volunteering at the animal shelter. She wants to spend an equal amount of time playing with each dog. She has 145 minutes to play with all 7 dogs. About how much time can she spend with each dog? (Lesson 4.1)

(A) about 10 minutes  
 (B) about 20 minutes  
 (C) about 25 minutes  
 (D) about 26 minutes
- Frieda has 12 red apples and 15 green apples. She is going to share the apples equally among 8 people and keep any extra apples for herself. How many apples will Frieda keep for herself? (Lesson 4.3)

(A) 3  
 (B) 4  
 (C) 6  
 (D) 7
- The Lynch family bought a house for \$75,300. A few years later, they sold the house for \$80,250. How much greater was the selling price than the purchase price? (Lesson 1.8)

(A) \$4,950  
 (B) \$5,050  
 (C) \$5,150  
 (D) \$5,950



Name \_\_\_\_\_

## Record Subtraction with Renaming



COMMON CORE STANDARD MACC.4.NF.2.3c

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the difference.

$$\begin{array}{r} 1. \quad 5\frac{1}{3} \longrightarrow 4\frac{4}{3} \\ -3\frac{2}{3} \longrightarrow 3\frac{2}{3} \\ \hline 1\frac{2}{3} \end{array}$$

$$\begin{array}{r} 2. \quad 6 \\ -3\frac{2}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 3. \quad 5\frac{1}{4} \\ -2\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 4. \quad 9\frac{3}{8} \\ -8\frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 5. \quad 12\frac{3}{10} \\ -7\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{1}{6} \\ -3\frac{5}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 7. \quad 7\frac{3}{5} \\ -4\frac{4}{5} \\ \hline \end{array}$$

$$\begin{array}{r} 8. \quad 10\frac{1}{2} \\ -8\frac{1}{2} \\ \hline \end{array}$$

$$\begin{array}{r} 9. \quad 7\frac{1}{6} \\ -2\frac{5}{6} \\ \hline \end{array}$$

$$\begin{array}{r} 10. \quad 9\frac{3}{12} \\ -4\frac{7}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 11. \quad 9\frac{1}{10} \\ -8\frac{7}{10} \\ \hline \end{array}$$

$$\begin{array}{r} 12. \quad 9\frac{1}{3} \\ -\frac{2}{3} \\ \hline \end{array}$$

$$\begin{array}{r} 13. \quad 3\frac{1}{4} \\ -1\frac{3}{4} \\ \hline \end{array}$$

$$\begin{array}{r} 14. \quad 4\frac{5}{8} \\ -1\frac{7}{8} \\ \hline \end{array}$$

$$\begin{array}{r} 15. \quad 5\frac{1}{12} \\ -3\frac{8}{12} \\ \hline \end{array}$$

$$\begin{array}{r} 16. \quad 7 \\ -1\frac{3}{5} \\ \hline \end{array}$$

## Problem Solving REAL WORLD

17. Alicia buys a 5-pound bag of rocks for a fish tank. She uses  $1\frac{1}{8}$  pounds for a small fish bowl. How much is left?

18. Xavier made 25 pounds of roasted almonds for a fair. He has  $3\frac{1}{2}$  pounds left at the end of the fair. How many pounds of roasted almonds did he sell at the fair?

## Lesson Check (MACC.4.NF.2.3c)

- Reggie is making a double-layer cake. The recipe for the first layer calls for  $2\frac{1}{4}$  cups sugar. The recipe for the second layer calls for  $1\frac{1}{4}$  cups sugar. Reggie has 5 cups of sugar. How much will he have left after making both recipes?
 

(A)  $1\frac{1}{4}$  cups       (C)  $2\frac{1}{4}$  cups  
 (B)  $1\frac{2}{4}$  cups       (D)  $2\frac{2}{4}$  cups
- Kate has  $4\frac{3}{8}$  yards of fabric and needs  $2\frac{7}{8}$  yards to make a skirt. How much extra fabric will she have left after making the skirt?
 

(A)  $2\frac{4}{8}$  yards       (C)  $1\frac{4}{8}$  yards  
 (B)  $2\frac{2}{8}$  yards       (D)  $1\frac{2}{8}$  yards

## Spiral Review (MACC.4.OA.2.4, MACC.4.NBT.2.5, MACC.4.NBT.2.6, MACC.4.NF.2.3c)

- Paulo has 128 glass beads to use to decorate picture frames. He wants to use the same number of beads on each frame. If he decorates 8 picture frames, how many beads will he put on each frame? (Lesson 4.8)
 

(A) 6  
 (B) 7  
 (C) 14  
 (D) 16
- Madison is making party favors. She wants to make enough favors so each guest gets the same number of favors. She knows there will be 6 or 8 guests at the party. What is the least number of party favors Madison should make? (Lesson 5.4)
 

(A) 18  
 (B) 24  
 (C) 30  
 (D) 32
- A shuttle bus makes 4 round-trips between two shopping centers each day. The bus holds 24 people. If the bus is full on each one-way trip, how many passengers are carried by the bus each day? (Lesson 2.10)
 

(A) 96  
 (B) 162  
 (C) 182  
 (D) 192
- To make a fruit salad, Marvin mixes  $1\frac{3}{4}$  cups of diced peaches with  $2\frac{1}{4}$  cups of diced pears. How many cups of peaches and pears are in the fruit salad? (Lesson 7.7)
 

(A) 4 cups  
 (B)  $3\frac{2}{4}$  cups  
 (C)  $3\frac{1}{4}$  cups  
 (D) 3 cups

Name \_\_\_\_\_

**Fractions and Properties of Addition**

COMMON CORE STANDARD MACC.4.NF.2.3c

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Use the properties and mental math to find the sum.

1.  $5\frac{1}{3} + (2\frac{2}{3} + 1\frac{1}{3})$

$5\frac{1}{3} + (4)$

$9\frac{1}{3}$

\_\_\_\_\_

2.  $10\frac{1}{8} + (3\frac{5}{8} + 2\frac{7}{8})$

\_\_\_\_\_

3.  $8\frac{1}{5} + (3\frac{2}{5} + 5\frac{4}{5})$

\_\_\_\_\_

4.  $6\frac{3}{4} + (4\frac{2}{4} + 5\frac{1}{4})$

\_\_\_\_\_

5.  $(6\frac{3}{6} + 10\frac{4}{6}) + 9\frac{2}{6}$

\_\_\_\_\_

6.  $(6\frac{2}{5} + 1\frac{4}{5}) + 3\frac{1}{5}$

\_\_\_\_\_

7.  $7\frac{7}{8} + (3\frac{1}{8} + 1\frac{1}{8})$

\_\_\_\_\_

8.  $14\frac{1}{10} + (20\frac{2}{10} + 15\frac{7}{10})$

\_\_\_\_\_

9.  $(13\frac{2}{12} + 8\frac{7}{12}) + 9\frac{5}{12}$

\_\_\_\_\_

**Problem Solving**  **REAL WORLD**

10. Nate's classroom has three tables of different lengths. One has a length of  $4\frac{1}{2}$  feet, another has a length of 4 feet, and a third has a length of  $2\frac{1}{2}$  feet. What is the length of all three tables when pushed end to end?

\_\_\_\_\_

11. Mr. Warren uses  $2\frac{1}{4}$  bags of mulch for his garden and another  $4\frac{1}{4}$  bags for his front yard. He also uses  $\frac{3}{4}$  bag around a fountain. How many total bags of mulch does Mr. Warren use?

\_\_\_\_\_

## Lesson Check (MACC.4.NF.2.3c)

- A carpenter cut a board into three pieces. One piece was  $2\frac{5}{6}$  feet long. The second piece was  $3\frac{1}{6}$  feet long. The third piece was  $1\frac{5}{6}$  feet long. How long was the board?
  - $6\frac{5}{6}$  feet
  - $7\frac{1}{6}$  feet
  - $7\frac{5}{6}$  feet
  - $8\frac{1}{6}$  feet
- Harry works at an apple orchard. He picked  $45\frac{7}{8}$  pounds of apples on Monday. He picked  $42\frac{3}{8}$  pounds of apples on Wednesday. He picked  $54\frac{1}{8}$  pounds of apples on Friday. How many pounds of apples did Harry pick those three days?
  - $132\frac{3}{8}$  pounds
  - $141\frac{3}{8}$  pounds
  - $142\frac{1}{8}$  pounds
  - $142\frac{3}{8}$  pounds

## Spiral Review (MACC.4.OA.2.4, MACC.4.NBT.2.5, MACC.4.NBT.2.6, MACC.4.NF.2.3c)

- There were 6 oranges in the refrigerator. Joey and his friends ate  $3\frac{2}{3}$  oranges. How many oranges were left? (Lesson 7.8)
  - $2\frac{1}{3}$  oranges
  - $2\frac{2}{3}$  oranges
  - $3\frac{1}{3}$  oranges
  - $9\frac{2}{3}$  oranges
- Darlene was asked to identify which of the following numbers is prime. Which number should she choose? (Lesson 5.5)
  - 2
  - 12
  - 21
  - 39
- A teacher has 100 chairs to arrange for an assembly. Which of the following is NOT a way the teacher could arrange the chairs? (Lesson 5.2)
  - 10 rows of 10 chairs
  - 8 rows of 15 chairs
  - 5 rows of 20 chairs
  - 4 rows of 25 chairs
- Nic bought 28 folding chairs for \$16 each. How much money did Nic spend on chairs? (Lesson 3.5)
  - \$196
  - \$348
  - \$448
  - \$600

Name \_\_\_\_\_

**Problem Solving • Fractions**

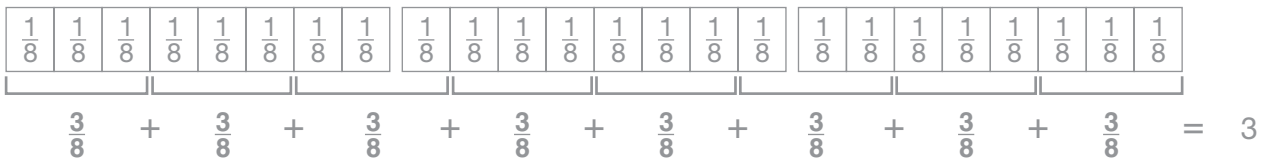


**COMMON CORE STANDARD** MACC.4.NF.2.3d

Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Read each problem and solve.

- Each child in the Smith family was given an orange cut into 8 equal sections. Each child ate  $\frac{5}{8}$  of the orange. After combining the leftover sections, Mrs. Smith noted that there were exactly 3 full oranges left. How many children are in the Smith family?



There are 8 addends, so there are 8 children in the Smith family.

**8 children**

- Val walks  $2\frac{3}{5}$  miles each day. Bill runs 10 miles once every 4 days. In 4 days, who covers the greater distance?

\_\_\_\_\_

- Chad buys peanuts in 2-pound bags. He repackages them into bags that hold  $\frac{5}{6}$  pound of peanuts. How many 2-pound bags of peanuts should Chad buy so that he can fill the  $\frac{5}{6}$ -pound bags without having any peanuts left over?

\_\_\_\_\_

- A carpenter has several boards of equal length. He cuts  $\frac{3}{5}$  of each board. After cutting the boards, the carpenter notices that he has enough pieces left over to make up the same length as 4 of the original boards. How many boards did the carpenter start with?

\_\_\_\_\_

## Lesson Check (MACC.4.NF.2.3d)

- Karyn cuts a length of ribbon into 4 equal pieces, each  $1\frac{1}{4}$  feet long. How long was the ribbon?
  - 4 feet
  - $4\frac{1}{4}$  feet
  - 5 feet
  - $5\frac{1}{4}$  feet
- Several friends each had  $\frac{2}{5}$  of a bag of peanuts left over from the baseball game. They realized that they could have bought 2 fewer bags of peanuts between them. How many friends went to the game?
  - 6
  - 5
  - 4
  - 2

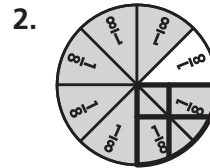
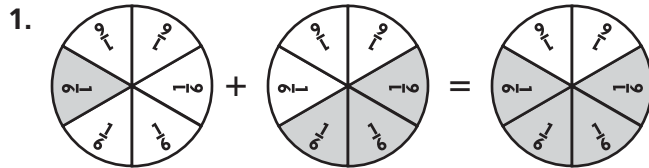
## Spiral Review (MACC.4.OA.3.5, MACC.4.NF.1.1, MACC.4.NF.2.3c, MACC.4.NF.2.3d)

- A frog made three jumps. The first was  $12\frac{5}{6}$  inches. The second jump was  $8\frac{3}{6}$  inches. The third jump was  $15\frac{1}{6}$  inches. What was the total distance the frog jumped? (Lesson 7.9)
  - $35\frac{3}{6}$  inches
  - $36\frac{1}{6}$  inches
  - $36\frac{3}{6}$  inches
  - $38\frac{1}{6}$  inches
- LaDanian wants to write the fraction  $\frac{4}{6}$  as a sum of unit fractions. Which expression should he write? (Lesson 7.2)
  - $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$
  - $\frac{2}{6} + \frac{2}{6}$
  - $\frac{3}{6} + \frac{1}{6}$
  - $\frac{1}{6} + \frac{1}{6} + \frac{2}{6}$
- Greta made a design with squares. She colored 8 out of the 12 squares blue. What fraction of the squares did she color blue? (Lesson 6.3)
  - $\frac{1}{4}$
  - $\frac{1}{3}$
  - $\frac{2}{3}$
  - $\frac{3}{4}$
- The teacher gave this pattern to the class: the first term is 5 and the rule is *add 4, subtract 1*. Each student says one number. The first student says 5. Victor is tenth in line. What number should Victor say? (Lesson 5.6)
  - 17
  - 19
  - 20
  - 21

# Chapter 7 Extra Practice

## Lesson 7.1

Use the model to write an equation.

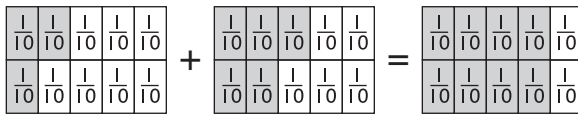


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Use the model to solve the equation.

3.  $\frac{3}{10} + \frac{5}{10} =$  \_\_\_\_\_



4.  $\frac{7}{12} - \frac{6}{12} =$  \_\_\_\_\_



## Lesson 7.2

Write the fraction as a sum of unit fractions.

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

2.  $\frac{3}{10} =$  \_\_\_\_\_

3.  $\frac{4}{6} =$  \_\_\_\_\_

4.  $\frac{5}{12} =$  \_\_\_\_\_

## Lessons 7.3 - 7.5

Find the sum or difference. Use fraction strips to help.

1.  $\frac{3}{8} + \frac{2}{8} =$  \_\_\_\_\_

2.  $\frac{4}{5} + \frac{1}{5} =$  \_\_\_\_\_

3.  $\frac{6}{10} + \frac{1}{10} =$  \_\_\_\_\_

4.  $\frac{5}{6} - \frac{4}{6} =$  \_\_\_\_\_

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

6.  $1 - \frac{7}{12} =$  \_\_\_\_\_

7.  $\frac{7}{10} - \frac{3}{10} =$  \_\_\_\_\_

8.  $\frac{2}{6} + \frac{4}{6} =$  \_\_\_\_\_

9.  $\frac{5}{8} - \frac{4}{8} =$  \_\_\_\_\_

## Lesson 7.6

Write each mixed number as a fraction and each fraction as a mixed number.

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

2.  $6\frac{1}{4} =$  \_\_\_\_\_

3.  $\frac{11}{3} =$  \_\_\_\_\_

4.  $\frac{16}{15} =$  \_\_\_\_\_

## Lessons 7.7 - 7.8

Find the sum or difference.

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

2.  $1\frac{5}{12} + 2\frac{1}{12}$

3.  $9\frac{5}{6} - 7\frac{1}{6}$

4.  $9\frac{3}{10} - 1\frac{7}{10}$

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

## Lesson 7.9

Use the properties and mental math to find the sum.

1.  $(1\frac{1}{4} + 4) + 2\frac{3}{4}$

2.  $\frac{3}{5} + (90\frac{2}{5} + 10)$

3.  $3\frac{2}{6} + (2\frac{1}{6} + \frac{4}{6})$

4.  $(\frac{5}{8} + 2\frac{3}{8}) + 1\frac{3}{8}$

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\_\_\_\_\_

## Lesson 7.10

1. Adrian jogs  $\frac{3}{4}$  mile each morning. How many days will it take him to jog 3 miles?

\_\_\_\_\_

2. Trail mix is sold in 1-pound bags. Mary will buy some trail mix and re-package it so that each of the 15 members of her hiking club gets one  $\frac{2}{5}$ -pound bag. How many 1-pound bags of trail mix should Mary buy to have enough trail mix without leftovers?

\_\_\_\_\_