

Dear Family,

Throughout the next few weeks, our math class will study the operations of addition and subtraction with fractions. The students will study and learn to identify and apply common denominators.

You can expect to see homework that includes adding and subtracting mixed numbers.

Here is a sample of how your child will be taught to estimate differences of fractions.

## Vocabulary

**common denominator** A common multiple of two or more denominators

**equivalent fractions** Fractions that name the same amount or part

**least common multiple** The least number that is a common multiple of two or more numbers

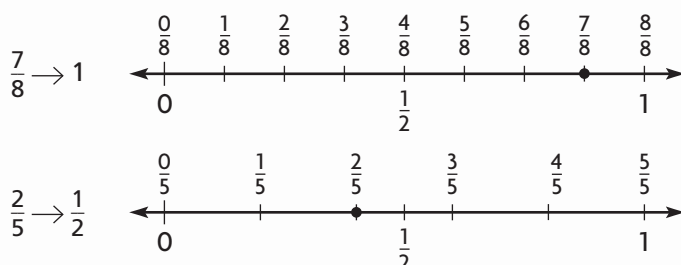
**least common denominator** The least common multiple of two or more denominators

### **MODEL** Estimate Sums and Differences

This is how we will be estimating  $\frac{7}{8} - \frac{2}{5}$ .

#### STEP 1

Round each fraction to the nearest 0,  $\frac{1}{2}$ , or 1.



#### STEP 2

Subtract the rounded fractions.

$$1 - \frac{1}{2} = \frac{1}{2}$$

### Tips

#### Subtraction with Renaming

If you have to regroup from the whole number in a mixed number, remember to regroup into the same fractional parts as in that number's fraction value.

## Activity

Having a ruler handy helps to quickly identify benchmarks to use when estimating fraction sums and differences. Have your child estimate fraction sums and differences such as  $\frac{7}{8} - \frac{2}{4}$  and  $1\frac{3}{8} + \frac{1}{4}$ .

# Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas estudiaremos las operaciones de suma y resta con fracciones. Aprenderemos a identificar y usar denominadores comunes.

Llevaré a la casa tareas con actividades para sumar y restar números mixtos.

Este es un ejemplo de la manera como aprenderemos a estimar diferencias de fracciones.

## Vocabulario

**común denominador** Un múltiplo común de dos o más denominadores

**fracciones equivalentes** Fracciones que nombran la misma cantidad o parte

**mínimo común múltiplo** El menor número, que es un múltiplo común de dos o más números

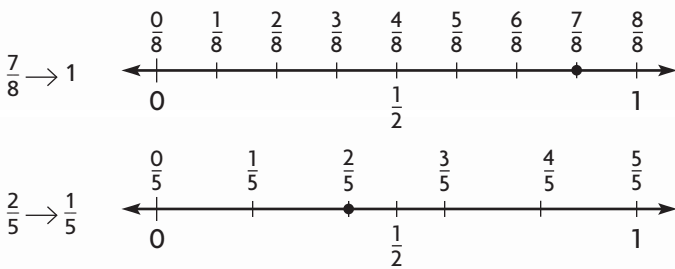
**mínimo común denominador** El menor múltiplo común de dos o más denominadores

### MODELO Estimar sumas y diferencias

Así es como estimaremos  $\frac{7}{8} - \frac{2}{5}$ .

#### PASO 1

Redondea cada fracción al 0, al  $\frac{1}{2}$  o al 1 más cercano.



#### PASO 2

Resta las fracciones redondeadas.

$$1 - \frac{1}{2} = \frac{1}{2}$$

### Pistas

#### Restar con conversión

Para reagrupar el número entero como un número mixto, recuerda reagrupar con la misma cantidad de partes fraccionarias que el valor fraccionario de ese número.

## Actividad

Una regla puede servir para identificar rápidamente los puntos de referencia que se usan cuando se estiman sumas y diferencias de fracciones. Pida a su hijo que estime sumas y diferencias de fracciones como  $\frac{7}{8} - \frac{2}{4}$  y  $1\frac{3}{8} + \frac{1}{4}$ .

Name \_\_\_\_\_

**Addition with Unlike Denominators****COMMON CORE STANDARD** MACC.5.NF.1.2

Use equivalent fractions as a strategy to add and subtract fractions.

Use fraction strips to find the sum. Write your answer in simplest form.

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

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

$1\frac{1}{4}$

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

9.  $\frac{7}{8} + \frac{1}{2}$

\_\_\_\_\_

10.  $\frac{5}{6} + \frac{1}{3}$

\_\_\_\_\_

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

\_\_\_\_\_

12.  $\frac{3}{4} + \frac{3}{8}$

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

13. Brandus bought  $\frac{1}{3}$  pound of ground turkey and  $\frac{3}{4}$  pound of ground beef to make sausages. How many pounds of meat did he buy?

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14. To make a ribbon and bow for a hat, Stacey needs  $\frac{5}{6}$  yard of black ribbon and  $\frac{2}{3}$  yard of red ribbon. How much total ribbon does she need?

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### Lesson Check (MACC.5.NF.1.2)

- Hirva ate  $\frac{5}{8}$  of a medium pizza. Elizabeth ate  $\frac{1}{4}$  of the pizza. How much pizza did they eat altogether?
  - $\frac{2}{4}$
  - $\frac{6}{12}$
  - $\frac{6}{8}$
  - $\frac{7}{8}$
- Bill ate  $\frac{1}{4}$  pound of trail mix on his first break during a hiking trip. On his second break, he ate  $\frac{1}{6}$  pound. How many pounds of trail mix did he eat during both breaks?
  - $\frac{5}{6}$  pound
  - $\frac{5}{12}$  pound
  - $\frac{1}{3}$  pound
  - $\frac{1}{5}$  pound

### Spiral Review (MACC.5.NBT.1.1, MACC.5.NBT.1.2, MACC.5.NBT.2.5, MACC.5.NBT.2.6, MACC.5.NBT.2.7)

- In 782,341,693, which digit is in the ten thousands place? (Lesson 1.1)
  - 2
  - 4
  - 8
  - 9
- Matt ran 8 laps in 1,256 seconds. If he ran each lap in the same amount of time, how many seconds did it take him to run 1 lap? (Lesson 1.9)
  - 107 seconds
  - 132 seconds
  - 157 seconds
  - 170 seconds
- Gilbert bought 3 shirts for \$15.90 each, including tax. How much did he spend? (Lesson 4.3)
  - \$5.30
  - \$35.70
  - \$37.70
  - \$47.70
- Julia has 14 pounds of nuts. There are 16 ounces in one pound. How many ounces of nuts does she have? (Lesson 1.7)
  - 224 ounces
  - 124 ounces
  - 98 ounces
  - 30 ounces

Name \_\_\_\_\_

**Subtraction with Unlike Denominators****COMMON CORE STANDARD** MACC.5.NF.1.2

Use equivalent fractions as a strategy to add and subtract fractions.

Use fraction strips to find the difference. Write your answer in simplest form.

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

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

$$\frac{1}{6}$$

2.  $\frac{3}{4} - \frac{3}{8}$

\_\_\_\_\_

3.  $\frac{7}{8} - \frac{1}{2}$

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

6.  $\frac{4}{5} - \frac{1}{2}$

\_\_\_\_\_

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

\_\_\_\_\_

8.  $\frac{5}{8} - \frac{1}{2}$

\_\_\_\_\_

9.  $\frac{7}{10} - \frac{1}{2}$

\_\_\_\_\_

10.  $\frac{9}{10} - \frac{2}{5}$

\_\_\_\_\_

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

\_\_\_\_\_

12.  $\frac{2}{3} - \frac{1}{2}$

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**Problem Solving** REAL WORLD

13. Amber had  $\frac{3}{8}$  of a cake left after her party. She wrapped a piece that was  $\frac{1}{4}$  of the original cake for her best friend. What fractional part did she have left for herself?

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14. Wesley bought  $\frac{1}{2}$  pound of nails for a project. When he finished the project, he had  $\frac{1}{4}$  pound of the nails left. How many pounds of nails did he use?

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### Lesson Check (MACC.5.NF.1.2)

- A meatloaf recipe calls for  $\frac{7}{8}$  cup of bread crumbs for the loaf and the topping. If  $\frac{3}{4}$  cup is used for the loaf, what fraction of a cup is used for the topping?
  - $\frac{4}{4}$  cup
  - $\frac{4}{8}$  cup
  - $\frac{1}{4}$  cup
  - $\frac{1}{8}$  cup
- Hannah bought  $\frac{3}{4}$  yard of felt for a project. She used  $\frac{1}{8}$  yard. What fraction of a yard of felt did she have left over?
  - $\frac{2}{8}$  yard
  - $\frac{4}{8}$  yard
  - $\frac{5}{8}$  yard
  - $\frac{5}{4}$  yards

### Spiral Review (MACC.5.NBT.1.2, MACC.5.NBT.1.4, MACC.5.NBT.2.7, MACC.5.NF.2.3)

- Jasmine's race time was 34.287 minutes. Round her race time to the nearest tenth of a minute. (Lesson 3.4)
  - 34.3 minutes
  - 34.2 minutes
  - 34.0 minutes
  - 30.0 minutes
- The Art Club is having a fund-raiser, and 198 people are attending. If 12 people can sit at each table, what is the least number of tables needed? (Lesson 2.7)
  - 15
  - 16
  - 17
  - 20
- During the day, Sam spent \$4.85 on lunch. He also bought 2 books for \$7.95 each. At the end of the day, he had \$8.20 left. How much money did he start with? (Lesson 4.5)
  - \$12.80
  - \$20.75
  - \$21.00
  - \$28.95
- What is the product of 7.5 and 1,000? (Lesson 4.1)
  - 0.0075
  - 0.075
  - 7,500
  - 75,000

Name \_\_\_\_\_

## Estimate Fraction Sums and Differences



COMMON CORE STANDARD MACC.5.NF.1.2

Use equivalent fractions as a strategy to add and subtract fractions.

Estimate the sum or difference.

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

2.  $\frac{1}{8} + \frac{1}{4}$

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

Think:  $\frac{1}{3}$  is closer to  $\frac{1}{2}$  than to 0.

Estimate: 0

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

4.  $2\frac{3}{5} - 1\frac{3}{8}$

5.  $\frac{1}{5} + \frac{3}{7}$

6.  $\frac{2}{5} + \frac{2}{3}$

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

7.  $2\frac{2}{3} + \frac{3}{4}$

8.  $1\frac{7}{8} - 1\frac{1}{2}$

9.  $4\frac{1}{8} - \frac{3}{4}$

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

10.  $3\frac{9}{10} - 1\frac{2}{5}$

11.  $2\frac{5}{8} + 1\frac{1}{4}$

12.  $1\frac{1}{3} - \frac{1}{4}$

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

Estimate: \_\_\_\_\_

## Problem Solving **REAL WORLD**

13. For a fruit salad recipe, Jenna combined  $\frac{3}{8}$  cup of raisins,  $\frac{7}{8}$  cup of oranges, and  $\frac{3}{4}$  cup of apples. About how many cups of fruit are in the salad?

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14. Tyler had  $2\frac{7}{16}$  yards of fabric. He used  $\frac{3}{4}$  yard to make a vest. About how much fabric did he have left?

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### Lesson Check (MACC.5.NF.1.2)

- Helen's house is located on a rectangular lot that is  $1\frac{1}{8}$  miles by  $\frac{9}{10}$  mile. Estimate the distance around the lot.
  - about 3 miles
  - about 4 miles
  - about 5 miles
  - about 6 miles
- Keith bought a package with  $2\frac{9}{16}$  pounds of ground meat to make hamburgers. He has  $\frac{2}{5}$  pound of ground meat left. About how many pounds of ground meat did he use for the hamburgers?
  - about 4 pounds
  - about 3 pounds
  - about 2 pounds
  - about 1 pound

### Spiral Review (MACC.5.NBT.2.5, MACC.5.NBT.2.7, MACC.5.NF.2.3)

- Jason bought two identical boxes of nails. One box weighs 168 ounces. What is the total weight in ounces of the nails Jason bought? (Lesson 1.6)
  - 84 ounces
  - 226 ounces
  - 326 ounces
  - 336 ounces
- Which is the most reasonable estimate for  $23.63 \div 6$ ? (Lesson 5.3)
  - 3
  - 4
  - 5
  - 6
- Hank wants to divide 345 pieces of candy evenly among his 23 classmates. How many pieces will be left over? (Lesson 2.7)
  - 0
  - 2
  - 11
  - 22
- What is a rule for the sequence below? (Lesson 3.10)  
0.8, 0.86, 0.92, 0.98, ...
  - start at 0.8, add 0.06
  - start at 0.8, add 0.6
  - start at 0.98, subtract 0.06
  - start at 0.98, subtract 0.6



Name \_\_\_\_\_

## Common Denominators and Equivalent Fractions



**COMMON CORE STANDARD** MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Use a common denominator to write an equivalent fraction for each fraction.

1.  $\frac{1}{5}, \frac{1}{2}$  common denominator: **10**

2.  $\frac{1}{4}, \frac{2}{3}$  common denominator: \_\_\_\_\_

3.  $\frac{5}{6}, \frac{1}{3}$  common denominator: \_\_\_\_\_

**Think:** 10 is a multiple of 5 and 2.  
Find equivalent fractions with a denominator of 10.

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\_\_\_\_\_

\_\_\_\_\_

4.  $\frac{3}{5}, \frac{1}{3}$  common denominator: \_\_\_\_\_

5.  $\frac{1}{2}, \frac{3}{8}$  common denominator: \_\_\_\_\_

6.  $\frac{1}{6}, \frac{1}{4}$  common denominator: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Use the least common denominator to write an equivalent fraction for each fraction.

7.  $\frac{5}{6}, \frac{2}{9}$

8.  $\frac{1}{12}, \frac{3}{8}$

9.  $\frac{5}{9}, \frac{2}{15}$

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\_\_\_\_\_

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## Problem Solving REAL WORLD

10. Ella spends  $\frac{2}{3}$  hour practicing the piano each day. She also spends  $\frac{1}{2}$  hour jogging. What is the least common denominator of the fractions?

11. In a science experiment, a plant grew  $\frac{3}{4}$  inch one week and  $\frac{1}{2}$  inch the next week. Use a common denominator to write an equivalent fraction for each fraction.

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### Lesson Check (MACC.5.NF.1.1)

- Which fractions use the least common denominator and are equivalent to  $\frac{9}{10}$  and  $\frac{5}{6}$ ?
  - $\frac{54}{60}$  and  $\frac{45}{60}$
  - $\frac{27}{30}$  and  $\frac{25}{30}$
  - $\frac{29}{30}$  and  $\frac{15}{30}$
  - $\frac{9}{16}$  and  $\frac{5}{16}$
- Joseph says that there is  $\frac{5}{8}$  of a pumpkin pie left and  $\frac{1}{2}$  of a peach pie left. Which is NOT a pair of equivalent fractions for  $\frac{5}{8}$  and  $\frac{1}{2}$ ?
  - $\frac{5}{8}$  and  $\frac{4}{8}$
  - $\frac{10}{16}$  and  $\frac{8}{16}$
  - $\frac{15}{24}$  and  $\frac{8}{24}$
  - $\frac{50}{80}$  and  $\frac{40}{80}$

### Spiral Review (MACC.5.OA.1.1, MACC.5.NBT.1.3b, MACC.5.NBT.2.6, MACC.5.NBT.2.7)

- Matthew had the following times in two races: 3.032 minutes and 3.023 minutes. Which sentence about these two numbers is true? (Lesson 3.3)
  - $3.032 > 3.023$
  - $3.032 = 3.023$
  - $3.032 < 3.023$
  - $3.023 > 3.023$
- Olivia's class collected 3,591 bottle caps in 57 days. On average, how many bottle caps did the class collect per day? (Lesson 2.6)
  - 57
  - 62
  - 63
  - 64
- Elizabeth multiplied 0.63 by 1.8. Which is the correct product? (Lesson 4.7)
  - 0.567
  - 0.654
  - 1.114
  - 1.134
- What is the value of  $(17 + 8) - 6 \times 2$ ? (Lesson 1.11)
  - 13
  - 21
  - 37
  - 38

Name \_\_\_\_\_

## Add and Subtract Fractions



COMMON CORE STANDARD MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Find the sum or difference. Write your answer in simplest form.

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

$$\begin{array}{r} \frac{1}{2} \rightarrow \frac{7}{14} \\ -\frac{1}{7} \rightarrow -\frac{2}{14} \\ \hline \frac{5}{14} \end{array}$$

2.  $\frac{7}{10} - \frac{1}{2}$

\_\_\_\_\_

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

\_\_\_\_\_

4.  $\frac{5}{8} + \frac{2}{5}$

\_\_\_\_\_

5.  $\frac{9}{10} - \frac{1}{3}$

\_\_\_\_\_

6.  $\frac{3}{4} - \frac{2}{5}$

\_\_\_\_\_

7.  $\frac{5}{7} - \frac{1}{4}$

\_\_\_\_\_

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

\_\_\_\_\_

9.  $\frac{5}{6} + \frac{2}{5}$

\_\_\_\_\_

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

\_\_\_\_\_

11.  $\frac{6}{11} - \frac{1}{2}$

\_\_\_\_\_

12.  $\frac{5}{6} + \frac{3}{7}$

\_\_\_\_\_

## Problem Solving REAL WORLD

13. Kaylin mixed two liquids for a science experiment. One container held  $\frac{7}{8}$  cup and the other held  $\frac{9}{10}$  cup. What is the total amount of the mixture?

\_\_\_\_\_

14. Henry bought  $\frac{1}{4}$  pound of screws and  $\frac{2}{5}$  pound of nails to build a skateboard ramp. What is the total weight of the screws and nails?

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### Lesson Check (MACC.5.NF.1.1)

- Lyle bought  $\frac{3}{8}$  pound of red grapes and  $\frac{5}{12}$  pound of green grapes. How many pounds of grapes did he buy?
  - $\frac{19}{24}$  pound
  - $\frac{2}{5}$  pound
  - $\frac{1}{3}$  pound
  - $\frac{1}{24}$  pound
- Jennifer had a  $\frac{7}{8}$ -foot board. She cut off a  $\frac{1}{4}$ -foot piece that was for a project. In feet, how much of the board was left?
  - $\frac{12}{8}$  feet
  - $\frac{9}{8}$  feet
  - $\frac{6}{8}$  foot
  - $\frac{5}{8}$  foot

### Spiral Review (MACC.5.NBT.2.6, MACC.5.NBT.2.7, MACC.5.NF.2.3)

- Ivan has 15 yards of green felt and 12 yards of blue felt to make 3 quilts. If Ivan uses the same total number of yards for each quilt, how many yards does he use for each quilt? (Lesson 1.9)
  - 4 yards
  - 5 yards
  - 9 yards
  - 27 yards
- Eight identical shirts cost a total of \$152. How much does one shirt cost? (Lesson 2.2)
  - \$2
  - \$8
  - \$19
  - \$24
- Melissa bought a pencil for \$0.34, an eraser for \$0.22, and a notebook for \$0.98. Which is the most reasonable estimate for the amount Melissa spent? (Lesson 3.7)
  - \$1.60
  - \$1.50
  - \$1.40
  - \$1.30
- The 12 members in Dante's hiking club shared 176 ounces of trail mix equally. How many ounces of trail mix did each member receive? (Lesson 2.7)
  - 15 ounces
  - $14\frac{2}{3}$  ounces
  - 14 ounces
  - 12 ounces

Name \_\_\_\_\_

## Add and Subtract Mixed Numbers



**COMMON CORE STANDARD** MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Find the sum or difference. Write your answer in simplest form.

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

$$\begin{array}{r} 3\frac{1}{2} \rightarrow 3\frac{5}{10} \\ -1\frac{1}{5} \rightarrow -1\frac{2}{10} \\ \hline 2\frac{3}{10} \end{array}$$

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

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

\_\_\_\_\_

6.  $5\frac{17}{18} - 2\frac{2}{3}$

\_\_\_\_\_

7.  $6\frac{3}{4} - 1\frac{5}{8}$

\_\_\_\_\_

8.  $5\frac{3}{7} - 2\frac{1}{5}$

\_\_\_\_\_

9.  $4\frac{1}{8} + 2\frac{5}{12}$

\_\_\_\_\_

10.  $6\frac{6}{7} - 2\frac{3}{4}$

\_\_\_\_\_

11.  $5\frac{5}{6} - 2\frac{3}{4}$

\_\_\_\_\_

12.  $2\frac{6}{25} - 1\frac{1}{10}$

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### Problem Solving



13. Jacobi bought  $7\frac{1}{2}$  pounds of meatballs. He decided to cook  $1\frac{1}{4}$  pounds and freeze the rest. How many pounds did he freeze?

\_\_\_\_\_

14. Jill walked  $8\frac{1}{8}$  miles to a park and then  $7\frac{2}{5}$  miles home. How many miles did she walk in all?

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### Lesson Check (MACC.5.NF.1.1)

- Ming has a goal to jog  $4\frac{1}{2}$  miles each day. On Monday she jogged  $5\frac{9}{16}$  miles. By how much did she exceed her goal for that day?
  - $1\frac{1}{16}$  miles
  - $1\frac{7}{16}$  miles
  - $1\frac{8}{16}$  miles
  - $1\frac{8}{14}$  miles
- At the deli, Ricardo ordered  $3\frac{1}{5}$  pounds of cheddar cheese and  $2\frac{3}{4}$  pounds of mozzarella cheese. How many pounds of cheese did he order?
  - $5\frac{19}{20}$  pounds
  - $5\frac{17}{20}$  pounds
  - $5\frac{4}{9}$  pounds
  - $5\frac{4}{20}$  pounds

### Spiral Review (MACC.5.NBT.1.3a, MACC.5.NBT.1.2, MACC.5.NBT.2.6, MACC.5.NBT.2.7)

- The theater has 175 seats. There are 7 seats in each row. How many rows are there? (Lesson 2.2)
  - 15
  - 17
  - 25
  - 30
- Over the first 14 days, 2,755 people visited a new store. About how many people visited the store each day? (Lesson 2.5)
  - about 100
  - about 150
  - about 200
  - about 700
- Which number is 100 times as great as 0.3? (Lesson 3.2)
  - 300
  - 30
  - 3
  - 0.003
- Mark said that the product of 0.02 and 0.7 is 14. Mark is wrong. Which product is correct? (Lesson 4.8)
  - 0.014
  - 0.14
  - 1.4
  - 14.0

Name \_\_\_\_\_

## Subtraction with Renaming



**COMMON CORE STANDARD** MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Estimate. Then find the difference and write it in simplest form.

1. Estimate: \_\_\_\_\_

$$6\frac{1}{3} - 1\frac{2}{5}$$

$$\begin{array}{r} 6\frac{1}{3} \rightarrow 5\frac{5}{5} \\ -1\frac{2}{5} \rightarrow -1\frac{6}{15} \\ \hline 4\frac{14}{15} \end{array}$$

2. Estimate: \_\_\_\_\_

$$4\frac{1}{2} - 3\frac{5}{6}$$

3. Estimate: \_\_\_\_\_

$$9 - 3\frac{7}{8}$$

4. Estimate: \_\_\_\_\_

$$2\frac{1}{6} - 1\frac{2}{7}$$

5. Estimate: \_\_\_\_\_

$$8 - 6\frac{1}{9}$$

6. Estimate: \_\_\_\_\_

$$9\frac{1}{4} - 3\frac{2}{3}$$

7. Estimate: \_\_\_\_\_

$$2\frac{1}{8} - 1\frac{2}{7}$$

8. Estimate: \_\_\_\_\_

$$8\frac{1}{5} - 3\frac{5}{9}$$

9. Estimate: \_\_\_\_\_

$$10\frac{2}{3} - 5\frac{9}{10}$$

## Problem Solving REAL WORLD

10. Carlene bought  $8\frac{1}{16}$  yards of ribbon to decorate a shirt. She only used  $5\frac{1}{2}$  yards. How much ribbon does she have left over?

11. During his first vet visit, Pedro's puppy weighed  $6\frac{1}{8}$  pounds. On his second visit, he weighed  $9\frac{1}{16}$  pounds. How much weight did he gain between visits?

\_\_\_\_\_

\_\_\_\_\_

### Lesson Check (MACC.5.NF.1.1)

- Natalia picked  $7\frac{1}{6}$  bushels of apples today and  $4\frac{5}{8}$  bushels yesterday. How many more bushels did she pick today?
 

(A)  $3\frac{4}{24}$  bushels      (C)  $2\frac{4}{8}$  bushels  
 (B)  $2\frac{13}{24}$  bushels      (D)  $1\frac{6}{12}$  bushels
- Max needs  $10\frac{1}{4}$  cups flour to make a batch of pizza dough for the pizzeria. He only has  $4\frac{1}{2}$  cups flour. How much more flour does he need to make the dough?
 

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

### Spiral Review (MACC.5.NBT.1.1, MACC.5.NBT.1.2, MACC.5.NBT.2.6, MACC.5.NBT.2.7)

- The accountant charged \$35 for the first hour of work and \$23 for each hour after that. He earned a total of \$127. How many hours did he work? (Lesson 1.9)
 

(A) 2 hours  
 (B) 3 hours  
 (C) 4 hours  
 (D) 5 hours
- Which number shows five hundred million, one hundred fifteen in standard form? (Lesson 1.2)
 

(A) 5,115,000  
 (B) 5,000,115  
 (C) 500,115,000  
 (D) 500,000,115
- The soccer league needs to transport all 133 players to the tournament. If 4 players can ride in one car, how many cars are needed? (Lesson 2.2)
 

(A) 25  
 (B) 30  
 (C) 33  
 (D) 34
- Find the quotient. (Lesson 5.6)
 

**$6.39 \div 0.3$**

(A) 0.213  
 (B) 2.13  
 (C) 21.3  
 (D) 213.0



Name \_\_\_\_\_

### Patterns with Fractions



**COMMON CORE STANDARD** MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Write a rule for the sequence. Then, find the unknown term.

1.  $\frac{1}{2}, \frac{2}{3}, \frac{5}{6}, \underline{\hspace{1cm}}, 1, 1\frac{1}{6}$

2.  $1\frac{3}{8}, 1\frac{3}{4}, 2\frac{1}{8}, \underline{\hspace{1cm}}, 2\frac{7}{8}$

**Think:** The pattern is increasing.

Add  $\frac{1}{6}$  to find the next term.

Rule: \_\_\_\_\_

Rule: \_\_\_\_\_

3.  $1\frac{9}{10}, 1\frac{7}{10}, \underline{\hspace{1cm}}, 1\frac{3}{10}, 1\frac{1}{10}$

4.  $2\frac{5}{12}, 2\frac{1}{6}, 1\frac{11}{12}, \underline{\hspace{1cm}}, 1\frac{5}{12}$

Rule: \_\_\_\_\_

Rule: \_\_\_\_\_

Write the first four terms of the sequence.

5. **Rule:** start at  $\frac{1}{2}$ , add  $\frac{1}{3}$

6. **Rule:** start at  $3\frac{1}{8}$ , subtract  $\frac{3}{4}$

\_\_\_\_\_

\_\_\_\_\_

7. **Rule:** start at  $5\frac{1}{2}$ , add  $1\frac{1}{5}$

8. **Rule:** start at  $6\frac{2}{3}$ , subtract  $1\frac{1}{4}$

\_\_\_\_\_

\_\_\_\_\_

### Problem Solving REAL WORLD

9. Jarett's puppy weighed  $3\frac{3}{4}$  ounces at birth. At one week old, the puppy weighed  $5\frac{1}{8}$  ounces. At two weeks old, the puppy weighed  $6\frac{1}{2}$  ounces. If the weight gain continues in this pattern, how much will the puppy weigh at three weeks old?

10. A baker started out with 12 cups of flour. She had  $9\frac{1}{4}$  cups of flour left after the first batch of batter she made. She had  $6\frac{1}{2}$  cups of flour left after the second batch of batter she made. If she makes two more batches of batter, how many cups of flour will be left?

\_\_\_\_\_

\_\_\_\_\_

## Lesson Check (MACC.5.NF.1.1)

- What is a rule for the sequence?  
 $\frac{5}{6}, 1\frac{1}{2}, 2\frac{1}{6}, 2\frac{5}{6}, \dots$ 
  - add  $1\frac{1}{4}$
  - add  $\frac{2}{3}$
  - subtract  $1\frac{1}{4}$
  - subtract  $\frac{2}{3}$
- Jaime biked  $5\frac{1}{4}$  miles on Monday,  $6\frac{7}{8}$  miles on Tuesday, and  $8\frac{1}{2}$  miles on Wednesday. If he continues the pattern, how many miles will he bike on Friday?
  - $10\frac{1}{8}$  miles
  - $10\frac{3}{4}$  miles
  - $11\frac{1}{8}$  miles
  - $11\frac{3}{4}$  miles

## Spiral Review (MACC.5.OA.1.2, MACC.5.NBT.2.5, MACC.5.NBT.2.7)

- Jaylyn rode her bicycle in a bike-a-thon. She rode 33.48 miles in 2.7 hours. If she rode at the same speed, what was her speed in miles per hour? (Lesson 5.6)
  - 12.04
  - 12.08
  - 12.4
  - 12.8
- One week a company filled 546 boxes with widgets. Each box held 38 widgets. How many widgets did the company pack in boxes that week? (Lesson 1.7)
  - 20,748
  - 20,608
  - 6,006
  - 2,748
- Which expression represents the statement "Add 9 and 3, then multiply by 6"? (Lesson 1.10)
  - $9 + 3 \times 6$
  - $6 \times (9 + 3)$
  - $6 \times 9 + 3$
  - $6 \times 9 \times 3$
- Mason took 9.4 minutes to complete the first challenge in the Champs Challenge. He completed the second challenge 2.65 minutes faster than the first challenge. How long did it take Mason to complete the second challenge? (Lesson 3.9)
  - 7.39 minutes
  - 7.35 minutes
  - 6.85 minutes
  - 6.75 minutes

Name \_\_\_\_\_

**Problem Solving • Practice Addition and Subtraction**



**COMMON CORE STANDARD** MACC.5.NF.1.2

Use equivalent fractions as a strategy to add and subtract fractions.

Read each problem and solve.

1. From a board 8 feet in length, Emmet cut two  $2\frac{1}{3}$ -foot bookshelves. How much of the board remained?

Write an equation:  $8 = 2\frac{1}{3} + 2\frac{1}{3} + x$

Rewrite the equation to work backward:

$$8 - 2\frac{1}{3} - 2\frac{1}{3} = x$$

Subtract twice to find the length remaining:  $3\frac{1}{3}$  feet

2. Lynne bought a bag of grapefruit,  $1\frac{5}{8}$  pounds of apples, and  $2\frac{3}{16}$  pounds of bananas. The total weight of her purchases was  $7\frac{1}{2}$  pounds. How much did the bag of grapefruit weigh?

\_\_\_\_\_

3. Mattie's house consists of two stories and an attic. The first floor is  $8\frac{5}{6}$  feet tall, the second floor is  $8\frac{1}{2}$  feet tall, and the entire house is  $24\frac{1}{3}$  feet tall. How tall is the attic?

\_\_\_\_\_

4. It is  $10\frac{3}{5}$  miles from Alston to Barton and  $12\frac{1}{2}$  miles from Barton to Chester. The distance from Alston to Durbin, via Barton and Chester, is 35 miles. How far is it from Chester to Durbin?

\_\_\_\_\_

5. Marcie bought a 50-foot roll of packing tape. She used two  $8\frac{5}{6}$ -foot lengths. How much tape is left on the roll?

\_\_\_\_\_

6. Meg started her trip with  $11\frac{1}{2}$  gallons of gas in her car's gas tank. She bought an additional  $6\frac{4}{5}$  gallons on her trip and arrived back home with  $3\frac{3}{10}$  gallons left. How much gas did she use on the trip?

\_\_\_\_\_

### Lesson Check (MACC.5.NF.1.2)

- Paula spent  $\frac{3}{8}$  of her allowance on clothes and  $\frac{1}{6}$  on entertainment. What fraction of her allowance did she spend on other items?
  - $\frac{3}{8}$
  - $\frac{11}{24}$
  - $\frac{13}{24}$
  - $\frac{5}{8}$
- Della bought a tree seedling that was  $2\frac{1}{4}$  feet tall. During the first year, it grew  $1\frac{1}{6}$  feet. After two years, it was 5 feet tall. How much did the seedling grow during the second year?
  - $1\frac{1}{4}$  feet
  - $1\frac{1}{3}$  feet
  - $1\frac{5}{12}$  feet
  - $1\frac{7}{12}$  feet

### Spiral Review (MACC.5.OA.1.1, MACC.5.NBT.1.2, MACC.5.NBT.2.6, MACC.5.NBT.2.7)

- Which is another way to write 100,000?  
(Lesson 1.4)
  - $10^6$
  - $10^5$
  - $10 \times 10^5$
  - $10 \times 10^6$
- Which expression is the best choice for estimating  $868 \div 28$ ? (Lesson 2.5)
  - $868 \div 28$
  - $900 \div 30$
  - $1,000 \div 20$
  - $1,000 \div 30$
- Justin gave the clerk \$20 to pay a bill of \$6.57. How much change should Justin get?  
(Lesson 3.11)
  - \$12.43
  - \$12.53
  - \$13.43
  - \$14.43
- What is the value of the following expression?  
 $7 + 18 \div (6 - 3)$  (Lesson 1.12)
  - 9
  - 13
  - 21
  - 27

Name \_\_\_\_\_

### Use Properties of Addition



**COMMON CORE STANDARD** MACC.5.NF.1.1

Use equivalent fractions as a strategy to add and subtract fractions.

Use the properties and mental math to solve. Write your answer in simplest form.

$$\begin{aligned}
 1. \quad & \left(2\frac{1}{3} + 1\frac{2}{5}\right) + 3\frac{2}{3} \\
 & = \left(1\frac{2}{5} + 2\frac{1}{3}\right) + 3\frac{2}{3} \\
 & = 1\frac{2}{5} + \left(2\frac{1}{3} + 3\frac{2}{3}\right) \\
 & = 1\frac{2}{5} + 6 \\
 & = 7\frac{2}{5}
 \end{aligned}$$


---

$$2. \quad 8\frac{1}{5} + \left(4\frac{2}{5} + 3\frac{3}{10}\right)$$


---

$$3. \quad \left(1\frac{3}{4} + 2\frac{3}{8}\right) + 5\frac{7}{8}$$


---

$$4. \quad 2\frac{1}{10} + \left(1\frac{2}{7} + 4\frac{9}{10}\right)$$


---

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


---

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


---

$$7. \quad \left(7\frac{1}{8} + 1\frac{2}{7}\right) + 4\frac{3}{7}$$


---

$$8. \quad 3\frac{1}{4} + \left(3\frac{1}{4} + 5\frac{1}{5}\right)$$


---

$$9. \quad 6\frac{2}{3} + \left(5\frac{7}{8} + 2\frac{1}{3}\right)$$


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### Problem Solving REAL WORLD

10. Elizabeth rode her bike  $6\frac{1}{2}$  miles from her house to the library and then another  $2\frac{2}{5}$  miles to her friend Milo's house. If Carson's house is  $2\frac{1}{2}$  miles beyond Milo's house, how far would she travel from her house to Carson's house?

---

11. Hassan made a vegetable salad with  $2\frac{3}{8}$  pounds of tomatoes,  $1\frac{1}{4}$  pounds of asparagus, and  $2\frac{7}{8}$  pounds of potatoes. How many pounds of vegetables did he use altogether?

---

### Lesson Check (MACC.5.NF.1.1)

- What is the sum of  $2\frac{1}{3}$ ,  $3\frac{5}{6}$ , and  $6\frac{2}{3}$ ?
  - $12\frac{5}{6}$
  - $11\frac{5}{6}$
  - $11\frac{8}{12}$
  - $11\frac{10}{18}$
- Letitia has  $7\frac{1}{6}$  yards of yellow ribbon,  $5\frac{1}{4}$  yards of orange ribbon, and  $5\frac{1}{6}$  yards of brown ribbon. How much ribbon does she have altogether?
  - $18\frac{7}{12}$  yards
  - $18\frac{1}{6}$  yards
  - $17\frac{7}{12}$  yards
  - $17\frac{3}{16}$  yards

### Spiral Review (MACC.5.OA.1.1, MACC.5.NBT.2.6, MACC.5.NBT.2.7, MACC.5.NF.1.1)

- Juanita wrote  $3 \times 47$  as  $3 \times 40 + 3 \times 7$ . Which property did she use to rewrite the expression? (Lesson 1.3)
  - Associative Property of Multiplication
  - Commutative Property of Multiplication
  - Distributive Property
  - Identity Property
- What is the value of the expression  $18 - 2 \times (4 + 3)$ . (Lesson 1.11)
  - 4
  - 7
  - 13
  - 112
- Evan spent \$15.89 on 7 pounds of birdseed. How much did the birdseed cost per pound? (Lesson 5.4)
  - \$2.07
  - \$2.12
  - \$2.27
  - \$2.29
- Cade rode  $1\frac{3}{5}$  miles on Saturday and  $1\frac{3}{4}$  miles on Sunday. How far did he ride in all on the two days? (Lesson 6.6)
  - $2\frac{7}{20}$  miles
  - $2\frac{9}{20}$  miles
  - $3\frac{3}{10}$  miles
  - $3\frac{7}{20}$  miles

Name \_\_\_\_\_

## Chapter 6 Extra Practice

### Lessons 6.1 - 6.2

Use fraction strips to find the sum or difference. Write your answer in simplest form.

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

2.  $\frac{7}{10} - \frac{3}{5}$

3.  $\frac{1}{9} + \frac{5}{6}$

4.  $\frac{3}{4} - \frac{5}{8}$

### Lesson 6.3

Estimate the sum or difference.

1.  $\frac{6}{10} + \frac{7}{12}$

2.  $\frac{5}{12} + \frac{7}{8}$

3.  $1\frac{3}{8} - \frac{8}{9}$

### Lesson 6.4

Use a common denominator to write an equivalent fraction for each fraction.

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

Common denominator: \_\_\_\_\_

\_\_\_\_\_

2.  $\frac{7}{8}$ ,  $\frac{3}{10}$

Common denominator: \_\_\_\_\_

\_\_\_\_\_

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

Common denominator: \_\_\_\_\_

\_\_\_\_\_

Use the least common denominator to write an equivalent fraction for each fraction.

4.  $\frac{1}{4}$ ,  $\frac{5}{6}$

\_\_\_\_\_

5.  $\frac{1}{2}$ ,  $\frac{1}{8}$

\_\_\_\_\_

6.  $\frac{3}{5}$ ,  $\frac{2}{7}$

\_\_\_\_\_

## Lessons 6.5 - 6.7

Find the sum or difference. Write your answer in simplest form.

1.  $\frac{7}{8} - \frac{5}{6}$

2.  $5 - 2\frac{4}{5}$

3.  $3\frac{1}{4} + 1\frac{7}{8}$

4.  $6\frac{9}{10} - 5\frac{4}{5}$

5.  $\frac{1}{3} + \frac{4}{15}$

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

7.  $2\frac{3}{8} + 8\frac{5}{6}$

8.  $9\frac{1}{4} - 2\frac{5}{8}$

## Lesson 6.8

- On the first day of the play, the auditorium was  $\frac{1}{3}$  full, the second day it was  $\frac{5}{12}$  full, and on the third day it was  $\frac{1}{2}$  full. If this pattern continues, how full will it be on the fourth day?
- Jake set up a study schedule. The plan called for him to study  $\frac{1}{4}$  hour,  $\frac{5}{8}$  hour, and 1 hour on Monday, Tuesday, and Wednesday in that order. If he continues with this pattern, how long will he study on Friday?

## Lesson 6.9

- Sierra spent  $\frac{2}{3}$  of her earnings on clothes and  $\frac{1}{5}$  on school supplies. She saved the rest. What fraction of her earnings did she save?
- Noah made  $1\frac{1}{2}$  dozen blueberry muffins and  $1\frac{3}{4}$  dozen lemon muffins. He needs to take 5 dozen muffins to the bake sale. How many dozen more muffins does he need to bake?

## Lesson 6.10

Use the properties and mental math to solve. Write your answer in simplest form.

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

2.  $1\frac{1}{4} + \left(\frac{3}{4} + \frac{2}{7}\right)$

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