

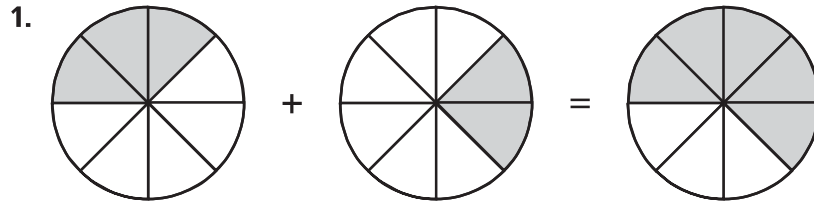
Name _____

Add and Subtract Parts of a Whole

COMMON CORE STANDARD CC.4.NF.3a

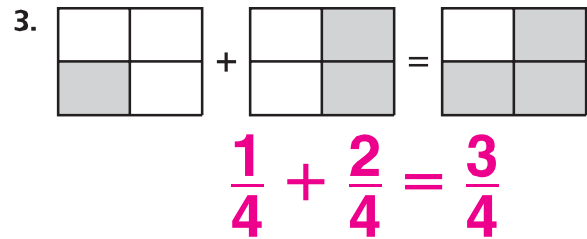
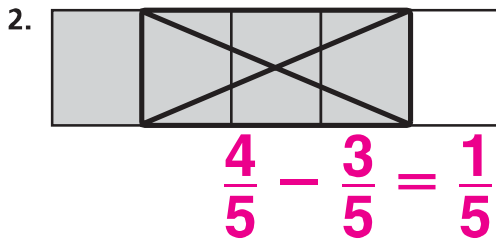
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Use the model to write an equation.

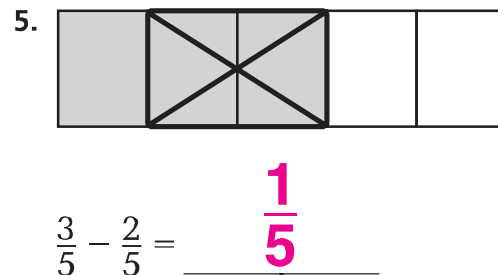
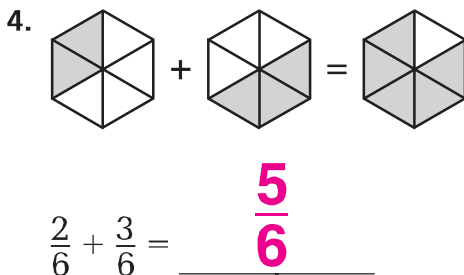


Think: $\frac{3}{8} + \frac{2}{8} = \frac{5}{8}$

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



Use the model to solve the equation.



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?

$$\frac{7}{8} \text{ of the pizza}$$

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.

No; one whole refers to an orange and the other whole to a banana.

Lesson Check (CC.4.NF.3a)

1. 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) $\frac{3}{8}$
 - ☒ $\frac{5}{8}$
 - (D) $\frac{7}{8}$
2. 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) $\frac{1}{6}$
 - ☒ $\frac{4}{6}$
 - (C) $\frac{5}{6}$
 - (D) $\frac{6}{6}$

Spiral Review (CC.4.OA.5, CC.4.NBT.5, CC.4.NF.1, CC.4.NF.2)

3. Which list of distances is in order from least to greatest? (Lesson 6.8)
 - ☒ $\frac{1}{8}$ 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
4. 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) $\frac{1}{2}$
 - ☒ $\frac{3}{4}$
5. 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
 - ☒ 76th floor
6. 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
 - ☒ 495
 - (D) 500

Name _____

Write Fractions as Sums

COMMON CORE STANDARD CC.4.NF.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.

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

$$3. \frac{6}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$$

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

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

Possible answers are given.

$$5. \frac{7}{10} = \frac{2}{10} + \frac{3}{10} + \frac{2}{10}$$

$$\frac{7}{10} = \frac{4}{10} + \frac{2}{10} + \frac{1}{10}$$

$$\frac{7}{10} = \frac{5}{10} + \frac{1}{10} + \frac{1}{10}$$

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

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

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

Problem Solving



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?

$\frac{1}{8}$ red, $\frac{1}{8}$ blue,
and $\frac{2}{8}$ green

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?

$\frac{3}{6}$ blue, $\frac{2}{6}$ red, $\frac{1}{6}$ pink;
 $\frac{4}{6}$ blue, $\frac{1}{6}$ red, $\frac{1}{6}$ pink;
 $\frac{3}{6}$ blue, $\frac{1}{6}$ red, $\frac{2}{6}$ pink

Lesson Check (CC.4.NF.3b)

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

Spiral Review (CC.4.OA.3, CC.4.OA.4, CC.4.NBT.6, CC.4.NF.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)
 - ☐ (A) $\frac{1}{6}$
 - ☐ (B) $\frac{2}{6}$
 - ☐ (C) $\frac{3}{6}$
 - ☒ $\frac{4}{6}$
- Which of the following numbers is a prime number? (Lesson 5.5)
 - ☐ (A) 1
 - ☒ 11
 - ☐ (C) 21
 - ☐ (D) 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)
 - ☐ (A) 1
 - ☒ 2
 - ☐ (C) 3
 - ☐ (D) 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
 - ☐ (B) 82
 - ☐ (C) 80
 - ☐ (D) 28

Name _____

Add Fractions Using Models

COMMON CORE STANDARD CC.4.NF.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. $\frac{4}{10} + \frac{5}{10} = \frac{9}{10}$

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

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

5. $\frac{2}{12} + \frac{4}{12} = \frac{6}{12}$

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

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

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

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

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

Problem Solving



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?

$\frac{9}{10}$ mile

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?

$\frac{3}{8}$ of the pan



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?

$\frac{3}{4}$ yard





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?

$\frac{3}{3}$ pound

Lesson Check (CC.4.NF.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) $\frac{1}{8}$  $\frac{5}{8}$
 (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) $\frac{2}{8}$  $\frac{3}{4}$

Spiral Review (CC.4.NBT.5, CC.4.NBT.6, CC.4.NF.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
 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
 \$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
 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
 4
 (C) 6
 (D) 8

Name _____

Subtract Fractions Using Models

COMMON CORE STANDARD CC.4.NF.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. $\frac{3}{4} - \frac{1}{4} = \frac{2}{4}$

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

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

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

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

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

8. $\frac{7}{6} - \frac{5}{6} = \frac{2}{6}$

Problem Solving



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?

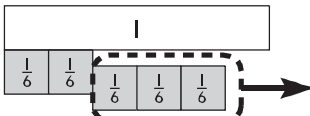
$\frac{5}{8}$ pound

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

$\frac{2}{8}$ pound

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 (CC.4.NF.3d)

- 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
- 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 (CC.4.NBT.5, CC.4.NF.2, CC.4.NF.3d)

- 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
- 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
- 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
- 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 _____

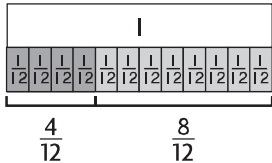
Add and Subtract Fractions

COMMON CORE STANDARDS CC.4.NF.3d

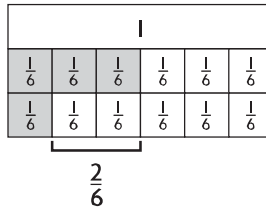
Build fractions from unit fractions by applying and extending previous understandings of operations on whole numbers.

Find the sum or difference.

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



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



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

$$4. \frac{6}{10} + \frac{3}{10} = \frac{9}{10}$$

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

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

$$7. \frac{9}{12} - \frac{5}{12} = \frac{4}{12}$$

$$8. \frac{5}{6} - \frac{2}{6} = \frac{3}{6}$$

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

Problem Solving

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?

$\frac{5}{10}$ mile

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

$\frac{10}{10}$ mile

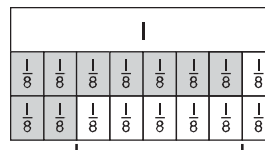
Distance from Guy's House	
Location	Distance (in miles)
Library	$\frac{9}{10}$
School	$\frac{5}{10}$
Store	$\frac{7}{10}$
Cafe	$\frac{4}{10}$
Yogurt Shop	$\frac{6}{10}$

Lesson Check (CC.4.NF.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?

- Ⓐ $\frac{1}{8}$ pound
 Ⓑ $\frac{2}{8}$ pound
 ● 1 pound
 Ⓓ 2 pounds

2. Which equation does the model below represent?



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

Spiral Review (CC.4.OA.3, CC.4.NBT.5, CC.4.NF.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)

- Ⓐ 4 ● 16
 Ⓑ 8 Ⓓ 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)

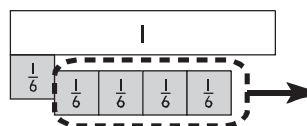
- Ⓐ 4 ● 11
 Ⓑ 7 Ⓓ 88

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)

- Ⓐ 302
 Ⓑ 332
 Ⓒ 362
 ● 432

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



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

Name _____

Rename Fractions and Mixed Numbers

COMMON CORE STANDARD CC.4.NF.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 $\frac{5}{5} + \frac{5}{5} + \frac{3}{5}$.

$\frac{13}{5}$

$\frac{13}{3}$

$\frac{7}{5}$

$\frac{11}{3}$

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

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

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

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

$\frac{33}{8}$

$\frac{17}{10}$

$\frac{11}{2}$

$\frac{19}{8}$

Write the fraction as a mixed number.

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

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

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

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

$5\frac{1}{6}$

2

$1\frac{7}{8}$

$2\frac{1}{6}$

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

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

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

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

$2\frac{3}{10}$

$3\frac{4}{5}$

$3\frac{2}{3}$

$4\frac{1}{2}$

Problem Solving



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?

ten $\frac{1}{4}$ cups

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

thirteen $\frac{1}{4}$ cups

Lesson Check (CC.4.NF.3c)

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

☐ (A) $3\frac{1}{5}$
☐ (B) $3\frac{2}{5}$

☒ $5\frac{1}{3}$
☐ (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
☒ $3\frac{1}{2}$ cups

☐ (C) 4 cups
☐ (D) $4\frac{1}{2}$ cups

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

☒ 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
☒ 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
☒ 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
☒ $\frac{4}{8}$ pound
☐ (C) 1 pound
☐ (D) $\frac{10}{8}$ pounds

Name _____

Add and Subtract Mixed Numbers

COMMON CORE STANDARD CC.4.NF.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.

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

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

$$\begin{array}{r} 3. \quad 2\frac{2}{3} \\ + 3\frac{2}{3} \\ \hline 6\frac{1}{3} \end{array}$$

$$\begin{array}{r} 4. \quad 6\frac{4}{5} \\ + 7\frac{4}{5} \\ \hline 14\frac{3}{5} \end{array}$$

$$\begin{array}{r} 5. \quad 9\frac{3}{6} \\ + 2\frac{2}{6} \\ \hline 11\frac{5}{6} \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{4}{12} \\ + 3\frac{6}{12} \\ \hline 11\frac{10}{12} \end{array}$$

$$\begin{array}{r} 7. \quad 4\frac{3}{8} \\ + 1\frac{5}{8} \\ \hline 6 \end{array}$$

$$\begin{array}{r} 8. \quad 9\frac{5}{10} \\ + 6\frac{3}{10} \\ \hline 15\frac{8}{10} \end{array}$$

Find the difference.

$$\begin{array}{r} 9. \quad 6\frac{7}{8} \\ - 4\frac{3}{8} \\ \hline 2\frac{4}{8} \end{array}$$

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

$$\begin{array}{r} 11. \quad 6\frac{4}{5} \\ - 3\frac{3}{5} \\ \hline 3\frac{1}{5} \end{array}$$

$$\begin{array}{r} 12. \quad 7\frac{3}{4} \\ - 2\frac{1}{4} \\ \hline 5\frac{2}{4} \end{array}$$

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?

$4\frac{2}{4}$ pounds

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?

$2\frac{2}{8}$ yards

Lesson Check (CC.4.NF.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 ☒ 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 ☒ $3\frac{2}{4}$ yards

Spiral Review (CC.4.OA.3, CC.4.NBT.4, CC.4.NBT.5, CC.4.NBT.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
☒ \$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
☒ 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)
☒ 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)
☒ \$4,950
☐ (B) \$5,050
☐ (C) \$5,150
☐ (D) \$5,950

Name _____

Record Subtraction with Renaming

COMMON CORE STANDARD CC.4.NF.3c

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

Find the difference.

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

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

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

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

$$\begin{array}{r} 5. \quad 12\frac{3}{10} \\ -7\frac{7}{10} \\ \hline 4\frac{6}{10} \end{array}$$

$$\begin{array}{r} 6. \quad 8\frac{1}{6} \\ -3\frac{5}{6} \\ \hline 4\frac{2}{6} \end{array}$$

$$\begin{array}{r} 7. \quad 7\frac{3}{5} \\ -4\frac{4}{5} \\ \hline 2\frac{4}{5} \end{array}$$

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

$$\begin{array}{r} 9. \quad 7\frac{1}{6} \\ -2\frac{5}{6} \\ \hline 4\frac{2}{6} \end{array}$$

$$\begin{array}{r} 10. \quad 9\frac{3}{12} \\ -4\frac{7}{12} \\ \hline 4\frac{8}{12} \end{array}$$

$$\begin{array}{r} 11. \quad 9\frac{1}{10} \\ -8\frac{7}{10} \\ \hline 4\frac{10}{10} \end{array}$$

$$\begin{array}{r} 12. \quad 9\frac{1}{3} \\ -\frac{2}{3} \\ \hline 8\frac{2}{3} \end{array}$$

$$\begin{array}{r} 13. \quad 3\frac{1}{4} \\ -1\frac{3}{4} \\ \hline 1\frac{2}{4} \end{array}$$

$$\begin{array}{r} 14. \quad 4\frac{5}{8} \\ -1\frac{7}{8} \\ \hline 2\frac{6}{8} \end{array}$$

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

$$\begin{array}{r} 16. \quad 7 \\ -1\frac{3}{5} \\ \hline 5\frac{2}{5} \end{array}$$

Problem Solving



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?

$3\frac{7}{8}$ pounds

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?

$21\frac{1}{2}$ pounds

Lesson Check (CC.4.NF.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 (B) $1\frac{4}{8}$ yards
 (C) $2\frac{2}{8}$ yards (D) $1\frac{2}{8}$ yards

Spiral Review (CC.4.OA.4, CC.4.NBT.5, CC.4.NBT.6, CC.4.NF.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 CC.4.NF.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. $10\frac{1}{8} + (3\frac{5}{8} + 2\frac{7}{8})$

$16\frac{5}{8}$

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

$17\frac{2}{5}$

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

$16\frac{2}{4}$

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

$26\frac{3}{6}$

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

$11\frac{2}{5}$

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

$12\frac{1}{8}$

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

50

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

$31\frac{2}{12}$

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 feet

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?

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

Lesson Check (CC.4.NF.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?
 - ☐ (A) $6\frac{5}{6}$ feet
 - ☐ (B) $7\frac{1}{6}$ feet
 - ☒ (C) $7\frac{5}{6}$ feet
 - ☐ (D) $8\frac{1}{6}$ 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?
 - ☐ (A) $132\frac{3}{8}$ pounds
 - ☐ (B) $141\frac{3}{8}$ pounds
 - ☐ (C) $142\frac{1}{8}$ pounds
 - ☒ (D) $142\frac{3}{8}$ pounds

Spiral Review (CC.4.OA.4, CC.4.NBT.5, CC.4.NBT.6, CC.4.NF.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)
 - ☒ (A) $2\frac{1}{3}$ oranges
 - ☐ (B) $2\frac{2}{3}$ oranges
 - ☐ (C) $3\frac{1}{3}$ oranges
 - ☐ (D) $9\frac{2}{3}$ oranges
- Darlene was asked to identify which of the following numbers is prime. Which number should she choose? (Lesson 5.5)
 - ☒ (A) 2
 - ☐ (B) 12
 - ☐ (C) 21
 - ☐ (D) 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)
 - ☐ (A) 10 rows of 10 chairs
 - ☒ (B) 8 rows of 15 chairs
 - ☐ (C) 5 rows of 20 chairs
 - ☐ (D) 4 rows of 25 chairs
- Nic bought 28 folding chairs for \$16 each. How much money did Nic spend on chairs? (Lesson 3.5)
 - ☐ (A) \$196
 - ☐ (B) \$348
 - ☒ (C) \$448
 - ☐ (D) \$600

Name _____

Problem Solving • Fractions

PROBLEM SOLVING

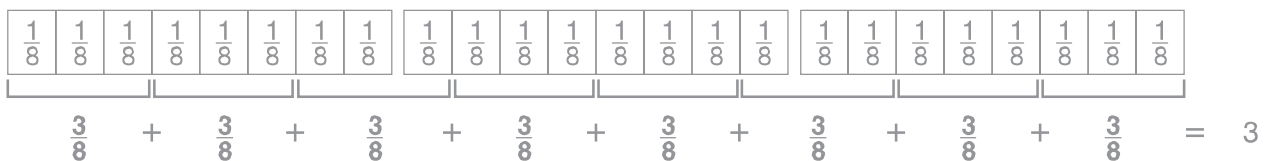
Lesson 7.10

COMMON CORE STANDARD CC.4.NF.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?

Val

- 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?

five 2-pound bags

- 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?

10 boards

Lesson Check (CC.4.NF.3d)

- Karyn cuts a length of ribbon into 4 equal pieces, each $1\frac{1}{4}$ feet long. How long was the ribbon?
 - ☐ (A) 4 feet
 - ☐ (B) $4\frac{1}{4}$ feet
 - ☒ 5 feet
 - ☐ (D) $5\frac{1}{4}$ 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?
 - ☐ (A) 6
 - ☒ 5
 - ☐ (C) 4
 - ☐ (D) 2

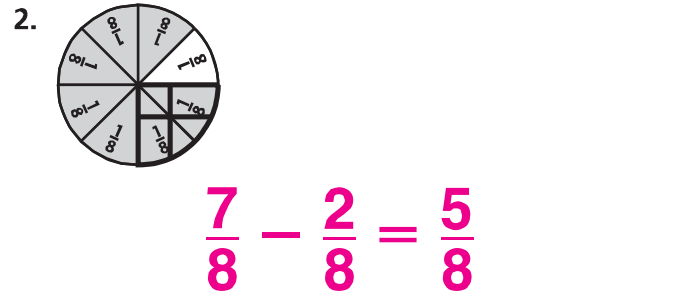
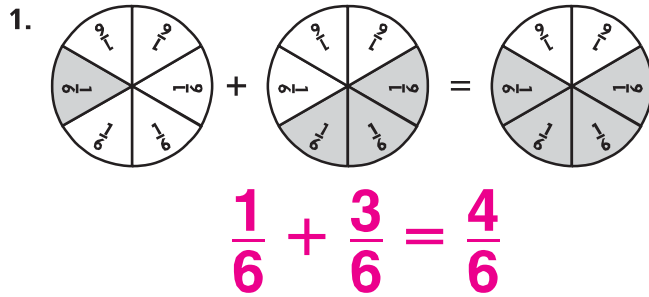
Spiral Review (CC.4.OA.5, CC.4.NF.1, CC.4.NF.3c, CC.4.NF.3d)

- 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)
 - ☐ (A) $35\frac{3}{6}$ inches
 - ☐ (B) $36\frac{1}{6}$ inches
 - ☒ $36\frac{3}{6}$ inches
 - ☐ (D) $38\frac{1}{6}$ inches
- LaDanian wants to write the fraction $\frac{4}{6}$ as a sum of unit fractions. Which expression should he write? (Lesson 7.2)
 - ☒ $\frac{1}{6} + \frac{1}{6} + \frac{1}{6} + \frac{1}{6}$
 - ☐ (B) $\frac{2}{6} + \frac{2}{6}$
 - ☐ (C) $\frac{3}{6} + \frac{1}{6}$
 - ☐ (D) $\frac{1}{6} + \frac{1}{6} + \frac{2}{6}$
- 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)
 - ☐ (A) $\frac{1}{4}$
 - ☐ (B) $\frac{1}{3}$
 - ☒ $\frac{2}{3}$
 - ☐ (D) $\frac{3}{4}$
- 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)
 - ☐ (A) 17
 - ☐ (B) 19
 - ☐ (C) 20
 - ☒ 21

Chapter 7 Extra Practice

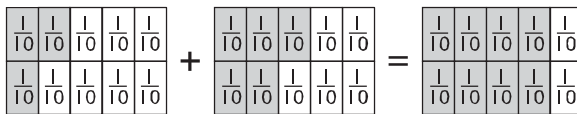
Lesson 7.1

Use the model to write an equation.



Use the model to solve the equation.

3. $\frac{3}{10} + \frac{5}{10} = \frac{8}{10}$



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



Lesson 7.2

Write the fraction as a sum of unit fractions.

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

2. $\frac{3}{10} = \frac{1}{10} + \frac{1}{10} + \frac{1}{10}$

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

4. $\frac{5}{12} = \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12} + \frac{1}{12}$

Lessons 7.3 - 7.5

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

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

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

3. $\frac{6}{10} + \frac{1}{10} = \frac{7}{10}$

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

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

6. $1 - \frac{7}{12} = \frac{5}{12}$

7. $\frac{7}{10} - \frac{3}{10} = \frac{4}{10}$

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

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

Lesson 7.6

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

1. $4\frac{2}{3} = \frac{14}{3}$

2. $6\frac{1}{4} = \frac{25}{4}$

3. $\frac{11}{3} = 3\frac{2}{3}$

4. $\frac{16}{15} = 1\frac{1}{15}$

Lessons 7.7 - 7.8

Find the sum or difference.

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

6

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

$3\frac{6}{12}$

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

$2\frac{4}{6}$

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

$7\frac{6}{10}$

Lesson 7.9

Use the properties and mental math to find the sum.

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

8

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

101

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

$6\frac{1}{6}$

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

$4\frac{3}{8}$

Lesson 7.10

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

4 days

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?

6 bags