

School-Home Letter

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

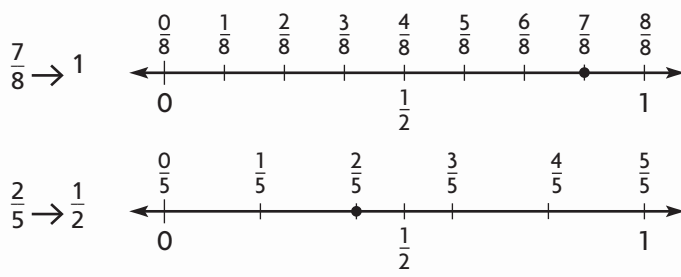


MODEL Estimate Sums and Differences

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

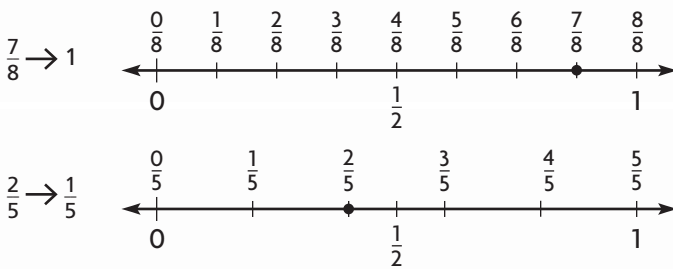
mínimo común denominador El menor múltiplo común de dos o más denominadores

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—5.NF.1, 5.NF.2** Use equivalent fractions as a strategy to add and subtract fractions.**Check students' work.**

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

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

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

$$1\frac{1}{4}$$

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

$$\frac{7}{12}$$

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

$$\frac{11}{10}, \text{ or } 1\frac{1}{10}$$

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

$$\frac{7}{8}$$

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

$$\frac{7}{8}$$

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

$$\frac{17}{12}, \text{ or } 1\frac{5}{12}$$

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

$$\frac{9}{10}$$

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

$$\frac{7}{6}, \text{ or } 1\frac{1}{6}$$

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

$$\frac{11}{8}, \text{ or } 1\frac{3}{8}$$

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

$$\frac{7}{6}, \text{ or } 1\frac{1}{6}$$

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

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

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

$$\frac{9}{8}, \text{ or } 1\frac{1}{8}$$

Problem Solving

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?

$$1\frac{1}{12} \text{ pounds}$$

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?

$$1\frac{1}{2} \text{ yards}$$

Lesson Check (5.NF.2)

1. Hirva ate $\frac{5}{8}$ of a medium pizza. Elizabeth ate $\frac{1}{4}$ of the pizza. How much pizza did they eat altogether?
2. 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?

$\frac{7}{8}$ of a pizza

$\frac{5}{12}$ pound

Spiral Review (5.NBT.1, 5.NBT.2, 5.NBT.5, 5.NBT.6, 5.NBT.7)

3. In 782,341,693, which digit is in the ten thousands place?
4. 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?

4

157 seconds

5. Gilbert bought 3 shirts for \$15.90 each, including tax. How much did he spend?
6. Julia has 14 pounds of nuts. There are 16 ounces in one pound. How many ounces of nuts does she have?

\$47.70

224 ounces

Name _____

Subtraction with Unlike Denominators**COMMON CORE STANDARD—5.NF.2**
Use equivalent fractions as a strategy to add and subtract fractions.**Check students' work.**

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

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

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

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

$$\frac{3}{8}$$

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

$$\frac{3}{8}$$

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

$$\frac{3}{10}$$

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

$$\frac{5}{12}$$

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

$$\frac{3}{10}$$

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

$$\frac{5}{12}$$

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

$$\frac{1}{8}$$

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

$$\frac{1}{5}$$

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

$$\frac{1}{2}$$

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

$$\frac{3}{8}$$

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

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

Problem Solving

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?

$$\frac{1}{8}$$

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?

$$\frac{1}{4} \text{ pound}$$

Lesson Check (5.NF.2)

1. 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?
2. 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?

$\frac{1}{8}$ cup

$\frac{5}{8}$ yard

Spiral Review (5.NBT.2, 5.NBT.4, 5.NBT.7, 5.NF.3)

3. Jasmine's race time was 34.287 minutes. Round her race time to the nearest tenth of a minute.
4. The Art Club is having a fundraiser, and 198 people are attending. If 12 people can sit at each table, what is the least number of tables needed?

34.3 minutes

17 tables

5. 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?
6. What is the product of 7.5 and 1,000?

\$28.95

7,500

Name _____

Estimate Fraction Sums and Differences**COMMON CORE STANDARD—5.NF.2**
Use equivalent fractions as a strategy to add and subtract fractions.**Possible estimates are given.**

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: 0Estimate: $\frac{1}{2}$ Estimate: $\frac{1}{2}$

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

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

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

Estimate: 1Estimate: $\frac{1}{2}$ Estimate: $1\frac{1}{2}$

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: 4Estimate: $\frac{1}{2}$ Estimate: 3

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: $2\frac{1}{2}$ Estimate: 4Estimate: 1**Problem Solving**

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?

Accept 2 or $2\frac{1}{2}$ cups

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?

**Possible answer:
about $1\frac{1}{2}$ yards**

Lesson Check (5.NF.2)

1. 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.
2. 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 miles

about 2 pounds

Spiral Review (5.NBT.5, 5.NBT.7, 5.NF.3)

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?
4. Hank wants to divide 345 pieces of construction paper evenly among his 23 classmates. How many pieces will be left over?

336 ounces

0 pieces of paper

5. Which is the most reasonable estimate for $23.63 \div 6$?
6. What is a rule for the sequence below?

1.8, 2.85, 3.90, 4.95, 6

4

add 1.05

Name _____

Factors



COMMON CORE STANDARD—5.OA.2.1
Operations and Algebraic Thinking

Write the number as a product of its prime factors.

1. 18

$$\underline{2 \times 3 \times 3}$$

2. 24

$$\underline{2 \times 2 \times 2 \times 3}$$

3. 32

$$\underline{2 \times 2 \times 2 \times 2 \times 2}$$

4. 36

$$\underline{2 \times 2 \times 3 \times 3}$$

5. 45

$$\underline{3 \times 3 \times 5}$$

6. 42

$$\underline{2 \times 3 \times 7}$$

Problem Solving



7. Elspeth made a chart showing numbers as the products of their prime factors. What expression is missing from row 2 of Elspeth's chart?

$$\underline{2 \times 2 \times 3}$$

8. What number is missing from row 4 of the chart?

$\underline{20}$

Number	Prime Factors
10	2×5
12	?
15	3×5
?	$2 \times 2 \times 5$
24	$2 \times 2 \times 2 \times 3$
25	5×5

Lesson Check (5.OA.2.1)

1. What is 50 written as the product of its prime factors?
2. A number given as the product of its prime factors is $2 \times 2 \times 2 \times 2 \times 3$. What is the number?

$$2 \times 5 \times 5$$

$$48$$

Spiral Review (5.NBT.2, 5.NBT.6, 5.NBT.7, 5.NF.2)

3. Jasmine has 168 stickers to put in 12 gift bags. If she divides the stickers evenly, how many stickers will she put in each bag?
4. Ralph is sewing panels of fabric together to make a drape for the set of a theater production. The lengths of the panels are 1.9 meters, 2.5 meters, and 3.4 meters. What will be the length of the drape made from these panels?

$$14 \text{ stickers}$$

$$7.8 \text{ meters}$$

5. The Old Time Train Museum is raising the price of tickets for train rides. Tickets used to cost \$4.80 each. The new ticket price will be 1.25 times the old ticket price. What will the new ticket price be?
6. Annalisa uses $\frac{2}{3}$ cup of all-purpose flour and $\frac{1}{2}$ cup of whole-wheat flour to make pancakes. How many cups of flour does she use altogether?

$$\$6.00$$

$$1\frac{1}{6} \text{ cups}$$

Name _____

Common Denominators and Equivalent Fractions



COMMON CORE STANDARD—5.NF.1
Use equivalent fractions as a strategy to add and subtract fractions.

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

Possible answers are given.

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

2. $\frac{1}{4}, \frac{2}{3}$ common denominator: 12

3. $\frac{5}{6}, \frac{1}{3}$ common denominator: 18

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

$\frac{2}{10}, \frac{5}{10}$

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

$\frac{15}{18}, \frac{6}{18}$

4. $\frac{3}{5}, \frac{1}{3}$ common denominator: 15

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

6. $\frac{1}{6}, \frac{1}{4}$ common denominator: 12

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

$\frac{4}{8}, \frac{3}{8}$

$\frac{2}{12}, \frac{3}{12}$

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

$\frac{15}{18}, \frac{4}{18}$

$\frac{2}{24}, \frac{9}{24}$

$\frac{25}{45}, \frac{6}{45}$

Problem Solving



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?

6

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.

Possible answer: $\frac{6}{8}$ and $\frac{4}{8}$

Lesson Check (5.NF.1)

1. Name a pair of fractions that use the least common denominator and are equivalent to $\frac{9}{10}$ and $\frac{5}{6}$.
2. Joseph says that there is $\frac{5}{8}$ of a ham sandwich left and $\frac{1}{2}$ of a turkey sandwich left. What is NOT a pair of equivalent fractions for $\frac{5}{8}$ and $\frac{1}{2}$?

$$\frac{27}{30} \text{ and } \frac{25}{30}$$

Possible answer:

$$\frac{15}{24} \text{ and } \frac{8}{24}$$

Spiral Review (5.OA.1, 5.NBT.3b, 5.NBT.6, 5.NBT.7)

3. Matthew had the following times in two races: 3.032 minutes and 3.023 minutes. Use $>$, $<$, or $=$ to make the sentence true.
4. Olivia's class collected 3,591 bottle caps in 57 days. The same number of bottle caps were collected each day. How many bottle caps did the class collect per day?

$$3.032 > 3.023$$

63 bottle caps

5. Elizabeth multiplied 0.63 by 1.8. What is the correct product?
6. What is the value of $(17 + 8) - 6 \times 2$?

1.134

13

Name _____

Add and Subtract Fractions**COMMON CORE STANDARD—5.NF.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. $\frac{7}{10} - \frac{1}{2}$

$$\frac{1}{5}$$

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

$$\frac{2}{3}$$

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

$$1\frac{1}{40}$$

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

$$\frac{17}{30}$$

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

$$\frac{7}{20}$$

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

$$\frac{13}{28}$$

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

$$1\frac{5}{24}$$

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

$$1\frac{7}{30}$$

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

$$\frac{1}{15}$$

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

$$\frac{1}{22}$$

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

$$1\frac{11}{42}$$

Problem Solving

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?

$$1\frac{31}{40} \text{ cups}$$

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?

$$1\frac{13}{20} \text{ pound}$$

Lesson Check (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?
2. 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?

$\frac{19}{24}$ pound

$\frac{5}{8}$ foot

Spiral Review (5.NBT.6, 5.NBT.7, 5.NF.3)

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?
4. Eight identical shirts cost a total of \$152. How much does one shirt cost?

9 yards

\$19

5. Melissa bought a pencil for \$0.34, an eraser for \$0.22, and a notebook for \$0.98. What is a reasonable estimate for the amount Melissa spent?
6. 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?

Possible estimate:
\$1.50

$14\frac{2}{3}$ ounces

Name _____

Add and Subtract Mixed Numbers**COMMON CORE STANDARD—5.NF.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. $2\frac{1}{3} + 1\frac{3}{4}$

$4\frac{1}{12}$

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

$6\frac{11}{24}$

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

$11\frac{1}{2}$

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

$3\frac{13}{20}$

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

$3\frac{5}{18}$

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

$5\frac{1}{8}$

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

$3\frac{8}{35}$

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

$6\frac{13}{24}$

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

$4\frac{3}{28}$

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

$3\frac{1}{12}$

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

$1\frac{7}{50}$

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?

$6\frac{1}{4}$ pounds

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?

$15\frac{21}{40}$ miles

Lesson Check (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?
2. 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?

$1\frac{1}{16}$ miles

$5\frac{19}{20}$ pounds

Spiral Review (5.NBT.3a, 5.NBT.2, 5.NBT.6, 5.NBT.7)

3. The theater has 175 seats. There are 7 seats in each row. How many rows are there?
4. During the first 14 days, 2,744 people visited a new store. The same number of people visited the store each day. About how many people visited the store each day?

25 rows

about 200 people

5. What number is 100 times as great as 0.3?
6. Mark said that the product of 0.02 and 0.7 is 14. Mark is wrong. What is the product?

30

0.014

Name _____

Subtraction with Renaming

Possible estimates are given.



COMMON CORE STANDARD—5.NF.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: $6\frac{1}{2} - 1\frac{1}{2} = 5$

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

2. Estimate: $4\frac{1}{2} - 4 = \frac{1}{2}$

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

3. Estimate: $9 - 4 = 5$

$$9 - 3\frac{7}{8} = 5\frac{1}{8}$$

4. Estimate: $2 - 1 = 1$

$$2\frac{1}{6} - 1\frac{2}{7} = \frac{37}{42}$$

5. Estimate: $8 - 6 = 2$

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

6. Estimate: $9 - 3\frac{1}{2} = 5\frac{1}{2}$

$$9\frac{1}{4} - 3\frac{2}{3} = 5\frac{7}{12}$$

7. Estimate: $2 - 1 = 1$

$$2\frac{1}{8} - 1\frac{2}{7} = \frac{47}{56}$$

8. Estimate: $8 - 3\frac{1}{2} = 4\frac{1}{2}$

$$8\frac{1}{5} - 3\frac{5}{9} = 4\frac{29}{45}$$

9. Estimate: $10\frac{1}{2} - 5\frac{1}{2} = 5$

$$10\frac{2}{3} - 5\frac{9}{10} = 4\frac{23}{30}$$

Problem Solving



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?

$$2\frac{9}{16} \text{ yards}$$

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?

$$2\frac{15}{16} \text{ pounds}$$

Lesson Check (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?
2. Max needs $10\frac{1}{4}$ cups of flour to make a batch of pizza dough for the pizzeria. He only has $4\frac{1}{2}$ cups of flour. How much more flour does he need to make the dough?

$2\frac{13}{24}$ bushels

$5\frac{3}{4}$ cups

Spiral Review (5.NBT.1, 5.NBT.2, 5.NBT.6, 5.NBT.7)

3. 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?
4. 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?

5 hours

34 cars

5. What is five hundred million, one hundred fifteen written in standard form?
6. Find the quotient.

$$6.39 \div 0.3$$

500,000,115

21.3

Name _____

Patterns with Fractions

**COMMON CORE STANDARD—5.NF.1***Use equivalent fractions as a strategy to add and subtract fractions.*

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

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

Think: The pattern is increasing.

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

Rule: _____

3. $1\frac{9}{10}, 1\frac{7}{10}, 1\frac{1}{2}, 1\frac{3}{10}, 1\frac{1}{10}$

subtract $\frac{1}{5}$

Rule: _____

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

add $\frac{3}{8}$

Rule: _____

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

subtract $\frac{1}{4}$

Rule: _____

Write the first four terms of the sequence.

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

$\frac{1}{2}, \frac{5}{6}, 1\frac{1}{6}, 1\frac{1}{2}$

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

$3\frac{1}{8}, 2\frac{3}{8}, 1\frac{5}{8}, \frac{7}{8}$

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

$5\frac{1}{2}, 6\frac{7}{10}, 7\frac{9}{10}, 9\frac{1}{10}$

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

$6\frac{2}{3}, 5\frac{5}{12}, 4\frac{1}{6}, 2\frac{11}{12}$

Problem Solving



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?

 $7\frac{7}{8}$ ounces

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?

1 cup of flour

Lesson Check (5.NF.1)

1. What is a rule for the sequence?
2. 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?

$$\frac{5}{6}, 1\frac{1}{2}, 2\frac{1}{6}, 2\frac{5}{6}, \dots$$

$$\text{add } \frac{2}{3}$$

$$11\frac{3}{4} \text{ miles}$$

Spiral Review (5.OA.2, 5.NBT.5, 5.NBT.7)

3. 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?
4. 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?

$$12.4 \text{ miles per hour}$$

$$20,748 \text{ widgets}$$

5. Write an expression that represents the statement "Add 9 and 3, then multiply by 6."
6. 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?

$$6 \times (9 + 3)$$

$$6.75 \text{ minutes}$$

Name _____

Problem Solving • Practice Addition and Subtraction



COMMON CORE STANDARD—5.NF.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?

$3\frac{11}{16}$ pounds

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?

7 feet

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?

$11\frac{9}{10}$ mi

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?

$32\frac{1}{3}$ feet

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?

15 gallons

Lesson Check (5.NF.2)

1. 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?
2. 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?

$$\frac{11}{24}$$

$$1\frac{7}{12} \text{ feet}$$

Spiral Review (5.OA.1, 5.NBT.2, 5.NBT.6, 5.NBT.7)

3. What is a way to write 100,000 using exponents?
4. What expression can be used for estimating $868 \div 28$?

$$10^5$$

$$900 \div 30$$

5. Justin gave the clerk \$20 to pay a bill of \$6.57. How much change should Justin get?
6. What is the value of the following expression?

$$7 + 18 \div (6 - 3)$$

$$\$13.43$$

$$13$$

Name _____

Use Properties of Addition



COMMON CORE STANDARD—5.NF.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.

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

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

$$\underline{15\frac{9}{10}}$$

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

$$\underline{10}$$

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

$$\underline{8\frac{2}{7}}$$

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

$$\underline{13\frac{8}{15}}$$

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

$$\underline{10\frac{2}{3}}$$

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

$$\underline{12\frac{47}{56}}$$

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

$$\underline{11\frac{7}{10}}$$

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

$$\underline{14\frac{7}{8}}$$

Problem Solving



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?

$\underline{11\frac{2}{5} \text{ miles}}$

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?

$\underline{6\frac{1}{2} \text{ pounds}}$

Lesson Check (5.NF.1)

1. What is the sum of $2\frac{1}{3}$, $3\frac{5}{6}$, and $6\frac{2}{3}$?
2. 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?

$$12\frac{5}{6}$$

$$17\frac{7}{12} \text{ yards}$$

Spiral Review (5.OA.1, 5.NBT.6, 5.NBT.7, 5.NF.1)

3. Juanita wrote 3×47 as $3 \times 40 + 3 \times 7$. What property did she use to rewrite the expression?
4. What is the value of the expression?

$$18 - 2 \times (4 + 3)$$

Distributive Property

4

5. Evan spent \$15.89 on 7 pounds of birdseed. How much did the birdseed cost per pound?
6. Cade rode $1\frac{3}{5}$ miles on Saturday and $1\frac{3}{4}$ miles on Sunday. How far did he ride on the two days?

$$\$2.27$$

$$3\frac{7}{20} \text{ miles}$$