

School-Home Letter

Dear Family,

During the next few weeks, our math class will be learning about factors, multiples, and fractions. The class will learn how to find common factors and multiples and use what we learn to write equivalent fractions and fractions in simplest form. We will also learn how to estimate fraction amounts.

You can expect to see homework that provides practice with factors, multiples, and fractions.

Here is a sample of how your child will be taught to write equivalent fractions.

Vocabulary

common factor A number that is a factor of two or more numbers

common multiple A multiple of two or more numbers

equivalent fractions Fractions that name the same amount

simplest form When 1 is the only number that can be evenly divided into the numerator and denominator of a fraction

common denominator A common multiple of the denominators of two or more fractions

MODEL Write Equivalent Fractions

Here are two ways to write equivalent fractions for $\frac{8}{12}$.

Use Multiplication

Multiply the numerator and the denominator by the same number.

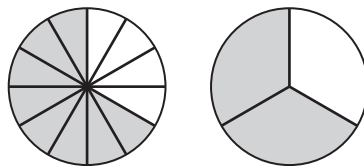
$$\frac{8}{12} = \frac{8 \times 2}{12 \times 2} = \frac{16}{24}$$



Use Division

Divide the numerator and denominator by a common factor.

$$\frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$



Tips

When finding the simplest form of a fraction, make sure that you can no longer divide the numerator and denominator by a common factor other than 1. For example, in the model at the left, the numerator and denominator could have been divided by the common factor, 2, giving an equivalent fraction of $\frac{4}{6}$. However, since the numerator and denominator still have a common factor greater than 1, the fraction can be simplified further to $\frac{2}{3}$.

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas estudiaremos sobre factores, múltiplos y fracciones. Aprenderemos cómo hallar factores y múltiplos comunes y cómo usar lo que sabemos para escribir fracciones equivalentes y fracciones en su mínima expresión. También aprenderemos a estimar fracciones.

Llevaré a la casa tareas para practicar con factores, múltiplos y fracciones.

Este es un ejemplo de la manera como aprenderemos a escribir fracciones equivalentes.

Vocabulario

factor común Un número que es un factor de dos o más números.

múltiplo común Un múltiplo de dos o más números.

fracciones equivalentes Fracciones que representan la misma cantidad.

mínima expresión Cuando 1 es el único número por el que tanto el numerador como el denominador de una fracción se pueden dividir, sin residuo.

denominador común Un múltiplo común de los denominadores de dos o más fracciones.

MODELO Escribir fracciones equivalentes

Estas son dos maneras de escribir fracciones equivalentes para $\frac{8}{12}$.

Usar la multiplicación

Multiplica el numerador y el denominador por el mismo número.

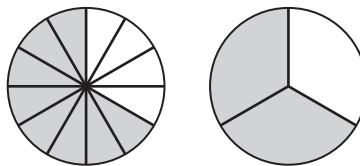
$$\frac{8}{12} = \frac{8 \times 2}{12 \times 2} = \frac{16}{24}$$



Usar la división

Divide el numerador y el denominador entre un factor común.

$$\frac{8}{12} = \frac{8 \div 4}{12 \div 4} = \frac{2}{3}$$



Pistas

Cuando se halla la mínima expresión de una fracción, hay que estar seguro de que ya no se puede dividir el numerador y el denominador entre un factor común distinto a 1. Por ejemplo, en el modelo de la izquierda, el numerador y el denominador podrían haberse dividido entre el factor común 2, lo cual produce una fracción equivalente de $\frac{4}{6}$. Sin embargo, como el numerador y el denominador todavía tienen un factor común mayor que 1, la fracción se puede simplificar aún más hasta obtener $\frac{2}{3}$.

Name _____

Determine Factors



MA.4.A.6.4 Determine factors and multiples for specified whole numbers.

Use tiles to find all the factors of the product.

Record the arrays on grid paper and write the factors shown.

1. 15

1, 3, 5, 15

2. 30

3. 45

4. 19

5. 40

6. 36

7. 22

8. 4

9. 58

10. 49

11. 60

12. 23

Problem Solving



13. Brooke has to set up 70 chairs in equal rows for the class talent show. But, there is not room for more than 20 rows. What are the possible number of rows that Brooke could set up?

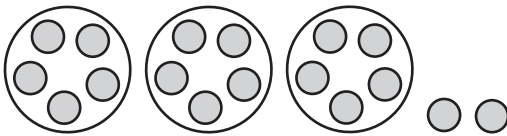
14. Eduardo thinks of a number between 1 and 20 that has exactly 5 factors. What number is he thinking of?

Lesson Check (MA.4.A.6.4)

- Which of the following lists all the factors of 24?
 - (A) 1, 4, 6, 24
 - (B) 1, 3, 8, 24
 - (C) 3, 4, 6, 8
 - (D) 1, 2, 3, 4, 6, 8, 12, 24
- Natalia has 36 tiles. She wants to arrange them in equal rows to make a rectangular patio. Which of the following could be the number of tiles in each row of her patio?
 - (F) 8
 - (G) 9
 - (H) 14
 - (I) 16

Review Grade 4 (MA.4.A.6.2)

- Dalton has 18 polished rocks. He wants to give the same number of rocks to each of 3 friends. Which of the following does Dalton need to find to solve the problem?
 - (A) the number left over
 - (B) the number of equal groups
 - (C) the number in each group
 - (D) the total number
- What is the remainder in the division problem modeled below?



 - (F) 2
 - (H) 5
 - (G) 3
 - (I) 17

← SPIRAL REVIEW

Look Back (MA.3.A.1.1, MA.4.A.6.4)

- Which number sentence is represented by the following array?

□	□	□	□	□
□	□	□	□	□
□	□	□	□	□
□	□	□	□	□

 - (A) $4 \times 5 = 20$
 - (B) $4 \times 4 = 16$
 - (C) $5 \times 2 = 10$
 - (D) $5 \times 5 = 25$
- Into how many equal-sized groups can 15 coins be divided if 5 coins are put in each group?
 - (F) 6
 - (G) 5
 - (H) 4
 - (I) 3

← SPIRAL REVIEW

Name _____

Explore Common Factors

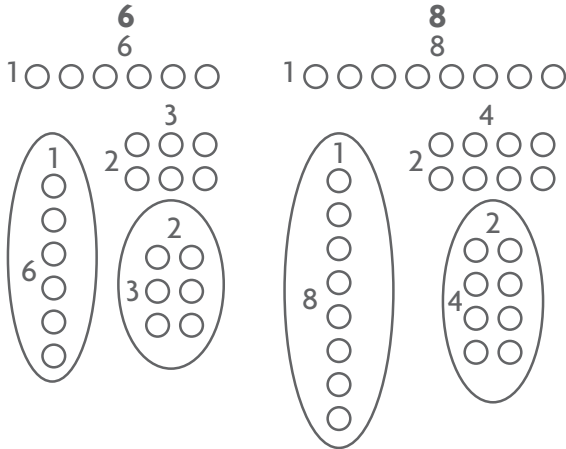


MA.4.A.6.4 Determine factors and multiples for specified whole numbers.

Use counters to make arrays to find the factors for the pair of numbers. Record the arrays as drawings. Circle the arrays that show the same number of counters in each row for both numbers. Write the common factors.

1. 6 and 8 1, 2

2. 4 and 10 _____



3. 8 and 20 _____

4. 10 and 25 _____

Make a list to find the common factors for the pair of numbers. Write the common factors.

5. 12 and 18

6. 9 and 27

7. 24 and 36

Problem Solving REAL WORLD

8. A florist has 20 daisies and 36 carnations. She wants to put the same number of each type of flower into vases. What are the possible number of vases she can use?

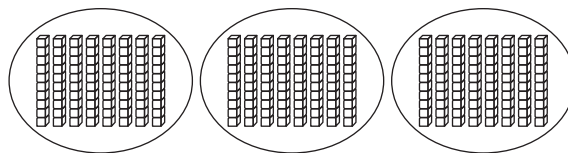
9. A citrus farmer wants to plant 24 lemon trees and 30 orange trees in equal rows. He wants the same number of each type of fruit tree in each row. What are the possible number of fruit trees that could be in each row?

Lesson Check (MA.4.A.6.4)

- What are all the common factors of 9 and 18?
 - (A) 6 and 18
 - (B) 1, 3 and 9
 - (C) 1 and 3
 - (D) 1, 3, 6, 9 and 18
- Sabrina is selling 16 pottery bowls and 20 ceramic vases. She wants to display the bowls and vases in equal rows on her table, with the same number of each type of item in each row. Which of the following could be the number of rows?
 - (F) 1 or 4
 - (G) 1, 2 or 4
 - (H) 5 or 8
 - (I) 1, 2, 4, 8 or 10

Review Grade 4 (MA.4.A.6.2)

- A company donates equally to 2 different charity organizations during the holidays. If the company donated a total of \$868, how much did each charity receive?
 - (A) \$43
 - (B) \$234
 - (C) \$404
 - (D) \$434
- Grant is using base-ten blocks to divide 243 into 3 equal groups. He divides the 24 tens as shown.



How many ones should Grant put in each group?

- (F) 0
- (G) 1
- (H) 5
- (I) 50

Look Back (MA.3.A.1.1, MA.4.A.6.4)

- Kelly skip counts on a number line from 0 to 12, counting by twos. How many groups of two will Kelly count?
 - (A) 3
 - (B) 4
 - (C) 5
 - (D) 6
- Which of the following expressions represents 6×3 ?
 - (F) $3 \times 2 + 3 \times 2$
 - (G) $3 + 3 \times 2 + 3$
 - (H) $6 + 6 + 6$
 - (I) $3 + 3 + 3 + 3 + 3 + 3$

Name _____

Determine Multiples



MA.4.A.6.4 Determine factors and multiples for specified whole numbers.

List the first twelve multiples of the number.

1. 6

$1 \times 6 = 6 \quad 7 \times 6 = 42$

$2 \times 6 = 12 \quad 8 \times 6 = 48$

$3 \times 6 = 18 \quad 9 \times 6 = 54$

$4 \times 6 = 24 \quad 10 \times 6 = 60$

$5 \times 6 = 30 \quad 11 \times 6 = 66$

$6 \times 6 = 36 \quad 12 \times 6 = 72$

6, 12, 18, 24,
30, 36, 42, 48,
54, 60, 66, 72

2. 4

3. 20

4. 30

5. 14

Is 60 a multiple of the number? Write *yes* or *no*. Explain.

6. 12 _____

7. 25 _____

8. 15 _____

Problem Solving



9. Amani is thinking of a number that is a factor of 36 and also a multiple of 3. What are the possible numbers Amani could be thinking of?

10. Shane has won 24 baseball and soccer trophies. The number of trophies he has for each activity is a multiple of 6. He has more soccer trophies than baseball trophies. How many of each type of trophy does Shane have?

Lesson Check (MA.4.A.6.4)

- Omar lays down straight tracks for his model railroad. Each length of track is 8 inches long. Which of the following could be the total length of Omar's track?
 - (A) 96 inches
 - (B) 82 inches
 - (C) 74 inches
 - (D) 68 inches
- Jillian paid \$48 for two new video games. The price of each game was a multiple of 4. Which could be the prices of the two games?
 - (F) \$14 and \$34
 - (G) \$16 and \$32
 - (H) \$10 and \$38
 - (I) \$18 and \$30

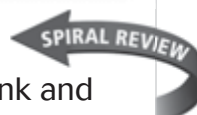
Review Grade 4 (MA.4.A.6.2)

- Cooper saved \$624 this year. He saved the same amount of money each week. How much did Cooper save each week?
 - (A) \$11
 - (B) \$12
 - (C) \$13
 - (D) \$14
- During her vacation, Daisy filled 3 buckets with a total of 78 seashells. If she put an equal number of shells in each bucket, how many seashells were in each bucket?
 - (F) 26
 - (G) 75
 - (H) 81
 - (I) 234



Look Back (MA.3.A.1.1, MA.4.A.6.4)

- Audrey starts with the number 3 and counts by threes out loud. Which of the following numbers will Audrey say as she counts?
 - (A) 25
 - (B) 21
 - (C) 13
 - (D) 8
- Cho starts with an empty coin bank and adds 4 quarters to it each day. How many quarters could be in Cho's coin bank?
 - (F) 6
 - (G) 8
 - (H) 10
 - (I) 14



Name _____

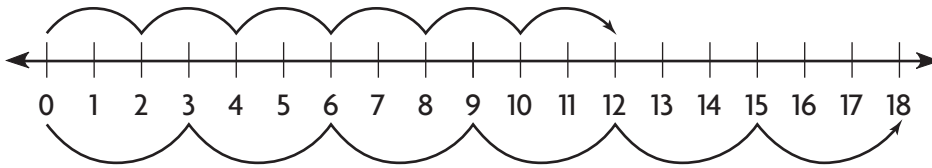
Explore Common Multiples



MA.4.A.6.4 Determine factors and multiples for specified whole numbers.

List the first six multiples of each. Then list the common multiples. You may use a model.

1. 2 and 3



2: 2, 4, 6, 8, 10, 12

3: 3, 6, 9, 12, 15, 18

common: 6, 12

2. 5 and 6

5: _____

6: _____

common: _____

3. 4 and 10

4: _____

10: _____

common: _____

4. 6 and 12

6: _____

12: _____

common: _____

5. 5 and 15

5: _____

15: _____

common: _____

6. 8 and 10

8: _____

10: _____

common: _____

Problem Solving

7. Beginning on the first day of school, Mr. Jones gives his son a turkey sandwich for lunch every 6 days and a banana with his lunch every 4 days. In how many days will Mr. Jones again give his son both a turkey sandwich and a banana for lunch?

8. Beginning June 1, Lydia will take dance class every 8 days and guitar lessons every 12 days. What is the first day Lydia will have both dance class and a guitar lesson?



Lesson Check (MA.4.A.6.4)

- Which of the following are common multiples of 6 and 8?
 (A) 18, 24, and 32
 (B) 24, 48, and 72
 (C) 24, 36, and 48
 (D) 48, 56, and 72
- Beginning July 1, the Sanchez family decided they will have a game night every 6 days and they will order pizza every 9 days. What is the first day the Sanchez family will both order pizza and have a game night?
 (F) July 12
 (G) July 18
 (H) July 24
 (I) July 27

Review Grade 4 (MA.4.A.6.1)

- In 2003, the planet Mars was about 34,646,418 miles from Earth. That is the closest it has been in almost 60,000 years. What is 34,646,418 rounded to the nearest million?
 (A) 40,000,000
 (B) 35,000,000
 (C) 33,000,000
 (D) 30,000,000
- The population of Florida in 2006, when rounded to the nearest ten million, is 20,000,000. What is the greatest number the actual population of Florida could be?
 (F) 15,000,000
 (G) 19,999,999
 (H) 24,999,999
 (I) 25,000,000

← SPIRAL REVIEW

Look Back (MA.3.A.1.2, MA.4.A.6.4)

- Brendan paid \$9 each for 2 new baseball caps. Which expression shows how much Brendan paid in all?
 (A) $9 + 9$
 (B) $9 + 2$
 (C) $2 + 9$
 (D) $2 + 2$
- Skylar reads a total of 5 hours each week. Which expression shows how many hours Skylar reads in 4 weeks?
 (F) $4 + 4$
 (G) $4 + 5$
 (H) $4 + 4 + 4 + 4$
 (I) $5 + 5 + 5 + 5$

← SPIRAL REVIEW

Name _____

Equivalent Fractions and Area Models



MA.4.A.6.3 Generate equivalent fractions and simplify fractions.

Write two equivalent fractions.

1. $\frac{9}{24}$

$$\frac{9 \times 2}{24 \times 2} = \frac{18}{48}$$

$$\frac{9 \div 3}{24 \div 3} = \frac{3}{8}$$

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

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

4. $\frac{5}{15}$

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

6. $\frac{20}{25}$

7. $\frac{24}{36}$

8. $\frac{4}{9}$

Tell whether the fractions are equivalent. Write = or \neq .

9. $\frac{4}{12}, \frac{6}{18}$

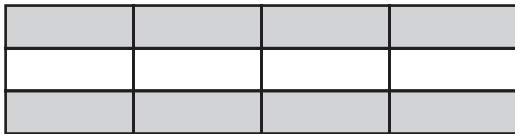
10. $\frac{3}{24}, \frac{2}{12}$

11. $\frac{6}{15}, \frac{10}{30}$

12. $\frac{21}{27}, \frac{35}{45}$

Problem Solving **REAL WORLD**

13. Sophia plants carrots in her garden. The shaded sections in the model show where carrots are planted.



Write two fractions that are equivalent to the part of Sophia's garden that is planted with carrots.

14. Jamal finished $\frac{8}{24}$ of his homework. Margaret finished $\frac{12}{18}$ of her homework, and Steve finished $\frac{4}{12}$ of his homework. Which two students finished the same amount of homework?

Lesson Check (MA.4.A.6.3)

- A rectangle is divided into 16 equal parts. Six parts are shaded. Which fraction is equivalent to the shaded area of the rectangle?
 - (A) $\frac{3}{8}$
 - (B) $\frac{6}{10}$
 - (C) $\frac{5}{8}$
 - (D) $\frac{16}{6}$
- Jeff divides his garden into 15 equal sections and plants peppers in 5 of the sections. Then he plants another larger garden that is divided into 45 sections. If Jeff wants to plant the same fraction of peppers in the larger garden that he has in the smaller garden, in how many sections will he plant peppers in the larger garden?
 - (F) 30
 - (G) 20
 - (H) 15
 - (I) 10


Review Grade 4 (MA.4.A.1.1)

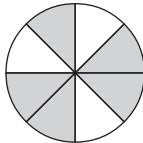
- Cassidy places 4 orange slices on each of 8 plates. How many orange slices did she place in all?
 - (A) 30
 - (B) 32
 - (C) 36
 - (D) 38
- María is having a tea party. She invites 3 friends to her party. If she has 16 cookies to serve, how many cookies will each person receive?
 - (F) 1
 - (G) 4
 - (H) 5
 - (I) 7

← SPIRAL REVIEW

Look Back (MA.3.A.2.1, MA.4.A.6.3)

- Ricardo divides a wall in his living room into three equal vertical sections. He paints the inner section gray. Which fraction of the wall is painted gray?


- What fraction of the circle is shaded?



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

- (F) $\frac{3}{8}$
- (G) $\frac{1}{2}$
- (H) $\frac{5}{8}$
- (I) $\frac{5}{3}$

← SPIRAL REVIEW

Name _____

Equivalent Fractions and Linear Models



MA.4.A.6.3 Generate equivalent fractions and simplify fractions.

Write two equivalent fractions or mixed numbers. You may use a model.

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

$\frac{4 \div 4}{16 \div 4} = \frac{1}{4}$

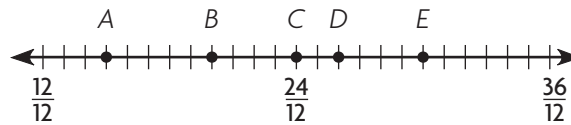
$\frac{4 \div 2}{16 \div 2} = \frac{2}{8}$

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

3. $\frac{8}{36}$

4. $\frac{11}{6}$

Use the number line to write the letter the equivalent fraction or mixed number represents.



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

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

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

8. $2\frac{1}{6}$

9. $1\frac{1}{4}$

Tell which fraction is not equivalent to the others.

Draw a quick picture to prove your answer.

10. $\frac{6}{15}, \frac{10}{25}, \frac{12}{45}$

11. $\frac{4}{12}, \frac{5}{20}, \frac{8}{32}$

12. $\frac{9}{18}, \frac{7}{13}, \frac{14}{28}$

13. $\frac{20}{32}, \frac{10}{12}, \frac{15}{18}$

14. $\frac{24}{54}, \frac{12}{27}, \frac{8}{20}$

Problem Solving REAL WORLD

15. Gianna has a pencil that is $6\frac{1}{4}$ inches long. Name an equivalent fraction for $6\frac{1}{4}$.

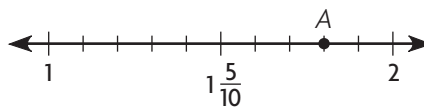
16. Ivan hiked $2\frac{10}{16}$ miles on Friday. On Saturday he hiked $2\frac{15}{21}$ miles. On Sunday he hiked $2\frac{5}{8}$ miles. On which two days did Ivan hike the same distance?

Lesson Check (MA.4.A.6.3)

1. Summer needs to cut a piece of fabric that is $4\frac{3}{4}$ yards long for a costume. All the marks on her tape measure show eighths. Which of the following measures can she use?

- (A) $4\frac{2}{8}$ yards
- (B) $4\frac{3}{8}$ yards
- (C) $4\frac{5}{8}$ yards
- (D) $4\frac{6}{8}$ yards

2. Which two fractions could be represented by point A on the number line below?



- (F) $1\frac{8}{10}, 1\frac{4}{5}$
- (G) $\frac{8}{10}, \frac{4}{5}$
- (H) $1\frac{8}{20}, 1\frac{8}{10}$
- (I) $1\frac{2}{10}, 1\frac{8}{10}$

Review Grade 4 (MA.4.A.4.2)

3. Which of the following represents the Distributive Property?

- (A) $6 \times 28 = 28 \times 6$
- (B) $6 \times (7 \times 4) = (6 \times 7) \times 4$
- (C) $6 \times 28 = 3 \times 2 \times 28$
- (D) $6 \times 28 = (6 \times 20) + (6 \times 8)$

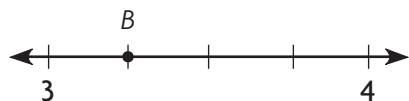
4. Clara puts the same number of apples, a , into each of 3 baskets. Which of the following expressions shows this situation?

- (F) $3 + a$
- (G) $3 \times a$
- (H) $a - 3$
- (I) $3 \div a$



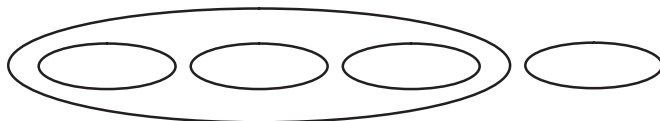
Look Back (MA.3.A.2.1, MA.4.A.6.3)

5. Which represents point B on the number line?



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

6. Four laps around the school's track are equal to 1 mile. Francisco ran three laps. What fraction of a mile did Francisco run?



- (F) $\frac{1}{12}$ mile
- (G) $\frac{1}{3}$ mile
- (H) $\frac{3}{4}$ mile
- (I) $\frac{3}{1}$ miles



Name _____

Equivalent Fractions and Set Models



MA.4.A.6.3 Generate equivalent fractions and simplify fractions.

Write two equivalent fractions.

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

$$\frac{1 \times 3}{3 \times 3} = \frac{3}{9}$$

$$\frac{1 \times 4}{3 \times 4} =$$

2. $\frac{9}{36}$

3. $\frac{14}{21}$

4. $\frac{8}{40}$

5. $\frac{6}{14}$

6. $\frac{15}{30}$

7. $\frac{30}{48}$

8. $\frac{30}{60}$

9. $\frac{35}{56}$

10. $\frac{7}{9}$

11. $\frac{48}{60}$

12. $\frac{10}{12}$

Problem Solving

13. A 12 pack of pudding has different flavors. Every third cup in the pack is vanilla. What are two equivalent fractions that represent the fraction of pudding cups in the pack that are vanilla?

14. Kareem buys a sheet of stickers like the one below.



If Kareem buys 4 sheets of stickers, what fraction of the stickers will be stars?

Lesson Check (MA.4.A.6.3)

- There are 16 scented markers in a pack of 36 markers. Which fraction represents the fraction of markers that are scented?

A $\frac{1}{2}$ C $\frac{2}{3}$
 B $\frac{4}{9}$ D $\frac{8}{9}$
- There are 12 cards in a pack of animal trading cards. One of the cards in each pack is a special foil card. Which two equivalent fractions represent the fraction of foil cards in each pack of animal trading cards?

F $\frac{2}{12}, \frac{4}{12}$ H $\frac{2}{24}, \frac{4}{36}$
 G $\frac{1}{6}, \frac{1}{3}$ I $\frac{2}{24}, \frac{4}{48}$

Review Grade 4 (MA.4.A.6.6)

- An electronics store sells a large flat screen television for \$1,699. Last month, the store sold 8 of these televisions. About how much money did they make on them?

A \$160,000
 B \$16,000
 C \$8,000
 D \$1,600
- A company shipped 3,280 boxes of its microwavable popcorn to each of 68 stores. Which is the best estimate of the total number of boxes?

F 180,000
 G 210,000
 H 280,000
 I 300,000

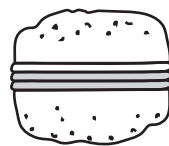
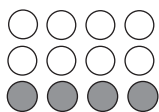
← SPIRAL REVIEW

Look Back (MA.3.A.2.1, MA.4.A.6.3)

- John had 12 baseball cards. He gave 4 to his brother. What fraction of the cards did he give to his brother?

A $\frac{1}{4}$ C $\frac{8}{12}$
 B $\frac{4}{12}$ D $\frac{4}{1}$
- Peter has three slices of cheese on his sandwich. Two of the cheese slices are Swiss and one is cheddar. What fraction of the cheese slices are Swiss?

F $\frac{3}{2}$ H $\frac{1}{2}$
 G $\frac{2}{3}$ I $\frac{1}{3}$



← SPIRAL REVIEW

Name _____

Simplest Form

MA.4.A.6.3 Generate equivalent fractions and simplify fractions

Write *yes* or *no* to tell whether the fraction can be simplified. If your answer is *yes*, then simplify.

1. $\frac{6}{18}$

Think: 6 is a factor
of 18.

yes; $\frac{1}{3}$

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

3. $\frac{36}{60}$

4. $\frac{12}{48}$

5. $\frac{18}{18}$

6. $\frac{12}{32}$

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

8. $\frac{11}{22}$

9. $\frac{24}{35}$

10. $\frac{56}{63}$

11. $\frac{1}{12}$

12. $\frac{26}{39}$

13. $\frac{100}{100}$

14. $\frac{49}{50}$

15. $\frac{85}{100}$

16. $\frac{96}{48}$

Problem Solving 

17. At Memorial Hospital, 9 of the 15 babies born on Tuesday were boys. In simplest form, what fraction of the babies born on Tuesday was boys?

18. Cristina uses a ruler to measure the length of her math textbook. She says that the book is $11\frac{2}{16}$ inches long. Is her measurement in simplest form? If not, what is the length of the book in simplest form?

Lesson Check (MA.4.A.6.3)

- Twelve out of the 28 members of the school choir are boys. In simplest form, what fraction of the choir is boys?
 - (A) $\frac{6}{14}$
 - (B) $\frac{12}{28}$
 - (C) $\frac{3}{7}$
 - (D) $\frac{4}{7}$
- Which of the following fractions is in simplest form?
 - (F) $\frac{8}{9}$
 - (G) $\frac{8}{10}$
 - (H) $\frac{15}{35}$
 - (I) $\frac{9}{36}$

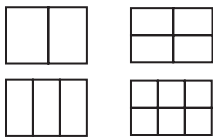
Review Grade 4 (MA.4.A.1.2)

- If each of the 23 students in Ms. Evans' class raised \$45 for the school by selling coupon books, how much money did the class raise in all?
 - (A) \$207
 - (B) \$225
 - (C) \$1,025
 - (D) \$1,035
- Camp Lone Pine will need at least 8 lanyard strings for each of its 289 campers to use at arts and crafts. What is the least number of lanyard strings that the camp needs to provide?
 - (F) 2,412
 - (G) 2,312
 - (H) 215
 - (I) 205

← SPIRAL REVIEW

Look Back (MA.3.A.2.1, MA.4.A.6.3)

- Ashlyn folded 4 sheets of paper into equal sections as shown below.
- Collin has 6 marbles. One of the marbles is blue and the rest are yellow.



If Ashlyn shades one section on each sheet of paper, which would be the greatest fraction of paper she shaded?

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



If Collin wants to increase the fraction of his marbles that is blue, which of the following could he do?

- (F) Add a yellow marble.
- (G) Take away a blue marble.
- (H) Take away a yellow marble.
- (I) Add a green marble.

← SPIRAL REVIEW

Name _____

Determine Common Denominators

MA.4.A.6.4 Determine factors and multiples for specified whole numbers.

Determine a common denominator for each pair of fractions.

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

Think: Find a common multiple.

3: 3, 6, 9, 12, 15

5: 5, 10, 15, 20, 25

15

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

3. $\frac{3}{11}$ and $\frac{1}{2}$

4. $\frac{3}{5}$ and $\frac{3}{4}$

5. $\frac{4}{7}$ and $\frac{7}{8}$

6. $\frac{7}{9}$ and $\frac{5}{12}$

7. $\frac{1}{4}$ and $\frac{9}{16}$

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

9. $\frac{5}{8}$ and $\frac{7}{12}$

10. $\frac{3}{4}$ and $\frac{5}{6}$

11. $\frac{3}{10}$ and $\frac{11}{15}$

Problem Solving  **REAL WORLD**

12. Adam has a collection of movie posters. One third of the posters are for comedies and $\frac{1}{4}$ of the posters are for dramas.

What is the least number of movie posters Adam could have?

13. Mera painted equal sections of her bedroom wall to make a pattern. She painted $\frac{2}{7}$ of the wall white and $\frac{1}{2}$ of the wall lavender. Write an equivalent fraction for each using a common denominator.

Lesson Check (MA.4.A.6.4)

- Which of the following is a common denominator of $\frac{4}{9}$ and $\frac{5}{6}$?
 - (A) 9
 - (B) 12
 - (C) 18
 - (D) 27
- Two fractions written in simplest form have a common denominator of 24. Which of the following could be the two fractions?
 - (F) $\frac{7}{8}, \frac{5}{6}$
 - (G) $\frac{4}{5}, \frac{3}{4}$
 - (H) $\frac{3}{12}, \frac{1}{2}$
 - (I) $\frac{8}{9}, \frac{1}{3}$

Review Grade 4 (MA.4.A.6.1)

- Which number is 1 million more than seven hundred two million, eighty-three thousand, one in standard form?
 - (A) 703,083,001
 - (B) 703,083,100
 - (C) 703,830,001
 - (D) 712,083,001
- How many hundreds are in 10,000,000?
 - (F) 1,000,000
 - (G) 100,000
 - (H) 10,000
 - (I) 1,000



Look Back (MA.3.A.1.2, MA.4.A.6.4)

- Cassandra stacks pennies in groups of 3. She makes 2 stacks. Which expression shows how many pennies Cassandra has in all?
 - (A) $3 + 3$
 - (B) $3 + 2$
 - (C) $2 + 3$
 - (D) $2 + 2$
- Hiram puts 4 shirts on each of 3 shelves. Which of the following is another way Hiram could arrange the same number of shirts?
 - (F) 2 shirts on each of 5 shelves
 - (G) 3 shirts on each of 4 shelves
 - (H) 3 shirts on each of 3 shelves
 - (I) 6 shirts on each of 3 shelves



Name _____

**Make a Table · Factors, Multiples,
and Fractions**



MA.4.A.6.3 Generate equivalent fractions and simplify fractions.

Solve each problem.

- Miranda is braiding some of her hair. Then she will attach beads to the braid. She wants $\frac{1}{3}$ of the beads to be red. If the greatest number of beads that will fit on the braid is 12, what fractions represent the possible ways Miranda can have red beads on the braid?

$$\frac{1}{3}, \frac{2}{6}, \frac{3}{9}, \frac{4}{12}$$

- Ms. Groves has a tray of paints for students in her art class. Each tray has 5 colors. One of the colors is purple. What fraction of the colors in 20 trays is purple?

- Miguel is making an obstacle course for field day. Every sixth of the course will have a tire to hop through. Every third of the course will have a cone to go around. Every half of the course will have a hurdle to crawl under. At which locations of the course will people need to go through more than one obstacle?

- Preston works in a bakery where he puts doughnuts in boxes to sell. He makes the following table to remind him how many glazed doughnuts should go in each box.

Number of Glazed Doughnuts	2	4	8	■
Total Number of Doughnuts	6	12	24	36

How many glazed doughnuts would Preston put in a box with 36 doughnuts?

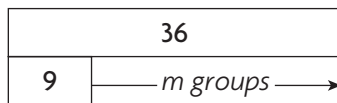
Lesson Check (MA.4.A.6.3)

- A used bookstore will trade 2 of its books for 3 of yours. If Val brings in 18 books to trade, how many books can she get from the store?
 - (A) 9
 - (B) 12
 - (C) 18
 - (D) 27
- Every $\frac{1}{2}$ hour Naomi stretches her neck, every $\frac{1}{3}$ hour she stretches her legs, and every $\frac{1}{6}$ hour she stretches her arms. Which part of her body will Naomi stretch when $\frac{2}{3}$ of an hour has passed?
 - (F) neck and legs
 - (G) neck and arms
 - (H) legs and arms
 - (I) none

Review Grade 4 (MA.4.A.4.2)

- Travis went to the store and bought 3 boxes of muffins. His total at the register was \$6. Which equation can be used to find the cost of each box of muffins, b ?
 - (A) $b \div 3 = \$6$
 - (B) $3 \times b = \$6$
 - (C) $3 + b = \$6$
 - (D) $b \div \$6 = 3$

- Which equation can be used to find m ?

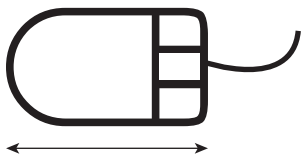


- (F) $36 = 9 - m$
- (G) $36 \div m = 9$
- (H) $36 - m = 9$
- (I) $36 = 9 + m$



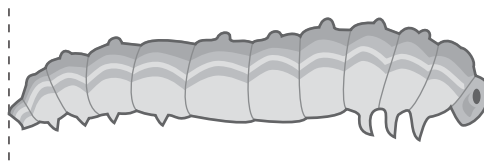
Look Back (MA.3.G.5.2)

- Tomas wants to measure the length of a computer mouse. Which unit should he use?



- (A) mile
- (B) yard
- (C) foot
- (D) inch

- Measure the length to the nearest half inch.



- (F) 2 inches
- (G) $2\frac{1}{2}$ inches
- (H) 3 inches
- (I) $3\frac{1}{2}$ inches



Name _____

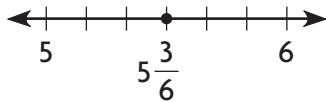
Estimate Fraction Amounts



MA.4.A.2.4 Compare and order decimals, and estimate fraction and decimal amounts in real-world problems.

Use benchmarks to estimate fraction amounts.
You may use a model.

1. Caitlin practices the piano for $5\frac{4}{6}$ hours each week. To the nearest half hour, about how long does she practice the piano each week?



about $5\frac{1}{2}$ hours

2. Noah jogs for $3\frac{2}{3}$ miles from his house before he turns around to jog back home. About how many miles has Noah jogged when he turns around?
-

3. The fourth grade classes at Pecan Elementary fill $4\frac{1}{10}$ boxes with canned foods during a food drive. About how many boxes are filled?
-

4. Nicolas is $4\frac{5}{12}$ feet tall. To the nearest half foot, about how tall is Nicolas?
-

Use benchmarks to order the fractions from greatest to least.

5. $\frac{5}{7}, \frac{4}{10}, \frac{19}{20}, \frac{1}{12}, \frac{25}{50}$
-

6. $\frac{13}{16}, \frac{2}{7}, \frac{6}{12}, \frac{2}{9}, \frac{15}{16}$
-

Problem Solving

7. Ana needs $6\frac{1}{2}$ inches of ribbon to finish a craft project. She has $6\frac{1}{8}$ inches of ribbon. Does Ana have enough to finish? About how much ribbon does Ana have?
-

8. George weighed $7\frac{7}{8}$ pounds when he was born. To the nearest half pound, about how many pounds did George weigh when he was born?
-

Lesson Check (MA.4.A.2.4)

- Tiffany spent $1\frac{7}{12}$ hours doing homework. Which of the following is the best estimate of how many hours Tiffany spent on her homework?
 - (A) 2 hours
 - (B) $1\frac{1}{2}$ hours
 - (C) $1\frac{1}{4}$ hours
 - (D) 1 hour
- A caterpillar measures $\frac{13}{16}$ inch long. Which of the following is the best estimate of the length of the caterpillar?
 - (F) 1 inch
 - (G) $\frac{1}{2}$ inch
 - (H) $\frac{1}{4}$ inch
 - (I) 0 inches

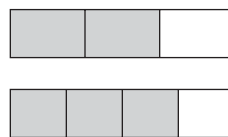
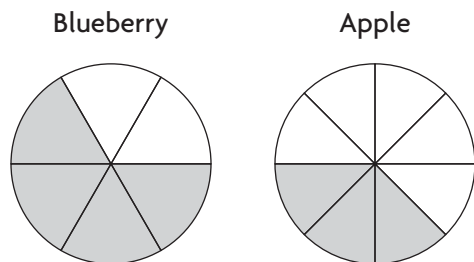
Review Grade 4 (MA.4.A.6.2)

- How many groups of 6 can be subtracted from 60?
 - (A) 10
 - (B) 9
 - (C) 6
 - (D) 5
- A tour guide takes 8 students at a time for a tour of a museum. If there are 100 students waiting to take a tour, how many students will be in the final tour group?
 - (F) 12
 - (G) 6
 - (H) 4
 - (I) 0

← SPIRAL REVIEW

Look Back (MA.3.A.2.3, MA.4.A.2.4)

- Parts of two pies are left over after a party. There is $\frac{4}{6}$ of the blueberry pie and $\frac{3}{8}$ of the apple pie left over. Which pie has more left over?
- Two fraction models are pictured below. Which of the following correctly compares the shaded parts of the models?



- (A) Blueberry; $\frac{4}{6} > \frac{3}{8}$
 - (B) Apple; $\frac{4}{6} < \frac{3}{8}$
 - (C) Apple; $\frac{4}{6} > \frac{3}{8}$
 - (D) Blueberry; $\frac{4}{6} < \frac{3}{8}$
- (F) $\frac{2}{3} > \frac{3}{4}$
 - (G) $\frac{2}{3} = \frac{3}{4}$
 - (H) $\frac{2}{3} < \frac{3}{4}$
 - (I) $\frac{3}{4} < \frac{2}{3}$

← SPIRAL REVIEW

Name _____

Chapter 7 Extra Practice

Lesson 7.1 (pp. 267–270)

Use tiles to find all the factors of the product.

Record the arrays on grid paper and write the factors shown.

1. 10

2. 35

3. 8

4. 48

Is 4 a factor of the number? Write *yes* or *no*.

5. 8

6. 15

7. 28

8. 36

9. John spends \$15 on socks. Each pair of socks cost the same whole number amount. If John buys more than one pair of socks, how many pairs of socks could he buy?

10. Celine spends \$28 on flowers. Each bunch of flowers costs \$7. How many bunches of flowers does she buy?

Lesson 7.3 (pp. 275–278)

List the first twelve multiples of the number.

1. 4

2. 3

Is 24 a multiple of number? Write *yes* or *no*. Explain.

3. 3

4. 8

5. 9

6. 12

Lesson 7.5 (pp. 285–288)

Write two equivalent fractions.

1. $\frac{3}{8}$ _____

2. $\frac{2}{10}$ _____

3. $\frac{9}{12}$ _____

4. $\frac{7}{12}$ _____

5. $\frac{10}{15}$ _____

6. $\frac{4}{20}$ _____

Tell whether the fractions are equivalent. Write = or \neq .

Draw a quick picture to prove your answer.

7. $\frac{1}{2}$, $\frac{5}{12}$ _____

8. $\frac{2}{14}$, $\frac{1}{7}$ _____

9. $\frac{5}{15}$, $\frac{1}{3}$ _____

Lesson 7.6 (pp. 289–292)

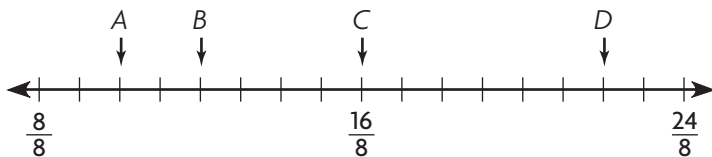
Write two equivalent fractions. You may use a model.

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

2. $\frac{5}{5}$ _____

3. $\frac{8}{24}$ _____

Use the number line to write the letter the equivalent fraction or mixed number represents.



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

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

6. $\frac{8}{4}$ _____

7. Beth bikes $1\frac{3}{4}$ miles one afternoon. Name a fraction that is equivalent to $1\frac{3}{4}$.

8. Tom and his friends ride their bikes $2\frac{2}{8}$ miles. How many fourths of a mile do they ride?

Lesson 7.7 (pp. 293–296)

Write two equivalent fractions or mixed numbers.
You may use a model.

1. $\frac{8}{24}$ _____

2. $\frac{9}{18}$ _____

3. $\frac{75}{100}$ _____

4. $\frac{3}{15}$ _____

5. $2\frac{9}{24}$ _____

6. $\frac{6}{4}$ _____

Lesson 7.8 (pp. 297–300)

Write *yes* or *no* to tell whether the fraction can be simplified.
If your answer is *yes*, then simplify.

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

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

3. $\frac{8}{6}$

4. $\frac{5}{23}$

5. $\frac{81}{72}$

6. $\frac{25}{25}$

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

8. $\frac{54}{45}$

Find the missing numerator or denominator.

9. $\frac{15}{20} = \frac{\square}{4}$

10. $\frac{10}{12} = \frac{5}{\square}$

11. $\frac{9}{24} = \frac{\square}{8}$

12. $\frac{15}{30} = \frac{\square}{60}$

13. Of the 28 students in Mrs. Carroll's class, 7 students own black backpacks. In simplest form, what fraction of the class owns black backpacks?

14. Six of 24 markers are red. The rest are blue or green. In simplest form, what fraction of the markers are either blue or green?

Lesson 7.9 (pp. 301–304)

Determine a common denominator for each pair of fractions.

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

2. $\frac{1}{5}$ and $\frac{4}{20}$

3. $\frac{2}{3}$ and $\frac{3}{9}$

4. $\frac{3}{12}$ and $\frac{5}{8}$

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

6. $\frac{2}{6}$ and $\frac{5}{8}$

Lesson 7.10 (pp. 305–308)

1. Mike has 50 marbles. His friend Jake will trade 4 of his marbles for every 5 of Mike's. How many marbles will Jake trade for Mike's?

2. Forty-eight students volunteer to work at a youth center. The students are divided into equal groups. If there are more than 4 students in each group, how many students could be in each group?

3. Manny packs apples and pears in 8 bags. He fills $\frac{1}{4}$ of each bag with apples. The largest bag has 16 pieces of fruit. What fractions represent the ways the fruit is packed so $\frac{1}{4}$ of each bag has apples?

4. Eight of 24 students in Mr. Rivera's class walk to school. Seven of 28 students in Mrs. Eastman's class walk to school. In simplest form, what fraction of each class walks to school? Which class has more walkers?

Lesson 7.11 (pp. 309–312)

Use benchmarks to estimate fraction amounts. You may use a model.

1. Cory spends $1\frac{2}{3}$ hours each week at hockey practice. About how much time does he spend at practice?

2. Before she exercises, Tina stretches for $\frac{6}{10}$ hour. About how long does she stretch?

3. Marta's recipe for apple crisp calls for $4\frac{1}{4}$ cups of apples. About how many cups will she use?

4. Jake is building a birdhouse. He cuts a board $7\frac{3}{8}$ inches long. About how long is the board?
