

Sixth Chapter

Understand Fractions

3rd Grade Math

Homework Package

Between 8th of December and 7rd of January students will be told during every lesson which 2 pages of the following package will be for the day's homework.

Konstantinos Vlachogiannatos

12/7/2014

Dear Family,

During the next few weeks, our math class will be learning about fractions. We will learn to identify, read, and write fractions as part of a whole and as part of a group.

You can expect to see homework that provides practice with fractions.

Here is a sample of how your child will be taught to use unit fractions to find a fractional part of a group.

Vocabulary

denominator The part of a fraction below the line that tells how many equal parts are in the whole or in the group

equal parts Parts that are exactly the same size

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

numerator The part of a fraction above the line that tells how many equal parts are being counted

unit fraction A fraction that names 1 equal part of a whole. It has 1 as its top number, or numerator.

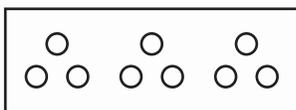
MODEL Find How Many in a Fractional Part of a Group

This is how we will be finding how many are in a fractional part of a group.

STEP 1

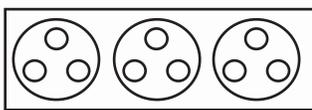
Find $\frac{1}{3}$ of 9.

Put 9 counters on your MathBoard.



STEP 2

Since you want to find $\frac{1}{3}$ of the group, there should be 3 equal groups.



STEP 3

Circle one of the groups to show $\frac{1}{3}$. Then count the number of counters in that group.



There are 3 counters in 1 group.

So, $\frac{1}{3}$ of 9 = 3.

Tips

Equal Groups or Parts

Before you name a fraction, be sure there are equal groups or parts.

Activity

Display a group of 12 objects, such as crayons. Have your child find fractional parts of the group by counting objects in equal groups. Ask your child to find these fractional groups of 12: $\frac{1}{2}$ (6), $\frac{1}{3}$ (4), $\frac{1}{4}$ (3), $\frac{1}{6}$ (2).

Carta para la casa

Querida familia,

Durante las próximas semanas, en la clase de matemáticas aprenderemos sobre las fracciones. Aprenderemos a identificar, leer y escribir fracciones como parte de un todo y como parte de un grupo.

Llevaré a la casa tareas que sirven para practicar las fracciones.

Este es un ejemplo de la manera como aprenderemos a usar fracciones para hallar una parte fraccionaria de un grupo.

Vocabulario

denominador La parte de una fracción que está debajo de la barra y que indica cuántas partes iguales hay en el entero o en el grupo

partes iguales Las partes que son exactamente del mismo tamaño

fracción Un número que representa una parte de un todo o una parte de un grupo

numerador La parte de una fracción que está arriba de la barra y que indica cuántas partes iguales del entero se están tomando en cuenta

fracción unitaria Una fracción que se refiere a 1 parte igual de un entero. Tiene un 1 en la parte de arriba o numerador.

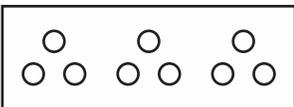
MODELO Hallar cuántos hay en una parte fraccionaria de un grupo

Así es como hallaremos cuántos hay en una parte fraccionaria de un grupo.

PASO 1

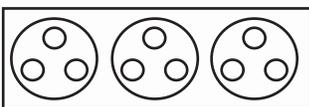
Halla $\frac{1}{3}$ de 9.

Coloca 9 fichas en el *MathBoard*.



PASO 2

Como quieres hallar $\frac{1}{3}$ del grupo, debe haber 3 grupos iguales.



PASO 3

Encierra en un círculo uno de los grupos para mostrar $\frac{1}{3}$. Luego cuenta la cantidad de fichas en el grupo.



Hay 3 fichas en 1 grupo. Por lo tanto, $\frac{1}{3}$ de 9 = 3.

Pistas

Grupos o partes iguales

Antes de que nombres una fracción, asegúrate de que haya grupos o partes iguales.

Actividad

Muestre un grupo de 12 objetos, como crayolas. Pida a su hijo que halle las partes fraccionarias del grupo contando objetos en grupos iguales. Luego, pídale que halle estos grupos fraccionarios de 12: $\frac{1}{2}$ (6), $\frac{1}{3}$ (4), $\frac{1}{4}$ (3), $\frac{1}{6}$ (2).

Equal Parts of a Whole

When you divide a shape into **equal parts**, each part must be exactly the same size.

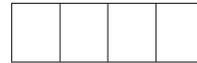
This rectangle is divided into **2** equal parts, or **halves**.



This rectangle is divided into **3** equal parts, or **thirds**.

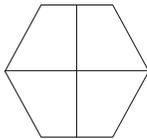


This rectangle is divided into **4** equal parts, or **fourths**.



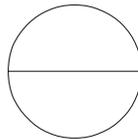
Write the number of equal parts. Then write the name for the parts.

1.



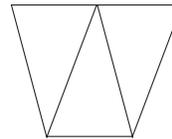
_____ equal parts

2.



_____ equal parts

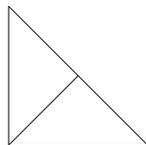
3.



_____ equal parts

Write whether each shape is divided into *equal* parts or *unequal* parts.

4.



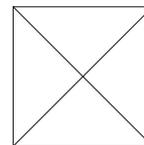
_____ parts

5.



_____ parts

6.



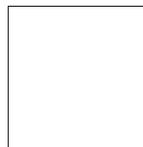
_____ parts

Draw lines to divide the squares into equal parts.

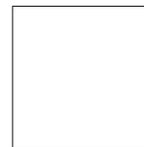
7. 3 thirds



8. 6 sixths



9. 8 eighths



Name _____

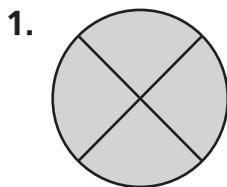
Equal Parts of a Whole



COMMON CORE STANDARD MACC.3.NF.1.1

Develop understanding of fractions as numbers.

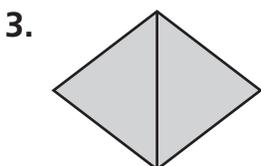
Write the number of equal parts.
Then write the name for the parts.



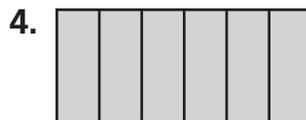
4 equal parts
fourths



_____ equal parts

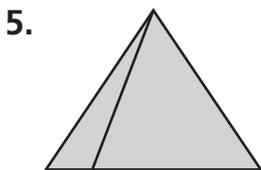


_____ equal parts

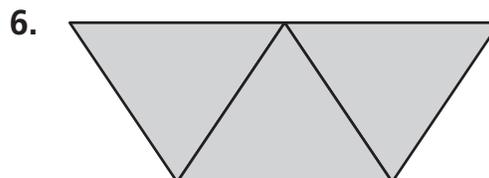


_____ equal parts

Write whether the shape is divided into *equal* parts or *unequal* parts.



_____ parts



_____ parts

Problem Solving REAL WORLD

7. Diego cuts a round pizza into eight equal slices. What is the name for the parts?

8. Madison is making a place mat. She divides it into 6 equal parts to color. What is the name for the parts?

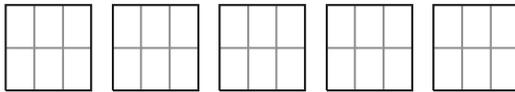
Equal Shares

Six brothers share 5 sandwiches equally. How much does each brother get? Draw to model the problem.

Step 1 Draw 5 squares for the sandwiches.



Step 2 There are 6 brothers. Draw lines to divide each sandwich into 6 equal parts.

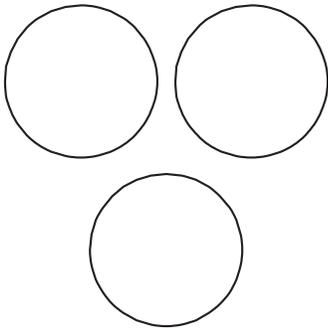


Step 3 Each brother will get 1 equal part from each sandwich.

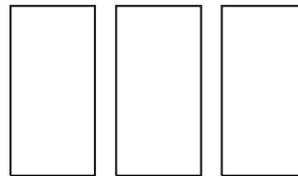
So, each brother gets 5 **sixths** of a sandwich.

Draw lines to show how much each person gets.
Write the answer.

1. 4 sisters share 3 pies equally.



2. 6 friends share 3 fruit bars equally.



Name _____

Equal Shares



COMMON CORE STANDARD MACC.3.NF.1.1

Develop understanding of fractions as numbers.

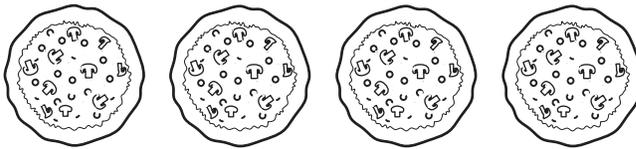
For 1–2, draw lines to show how much each person gets. Write the answer.

1. 6 friends share 3 sandwiches equally.

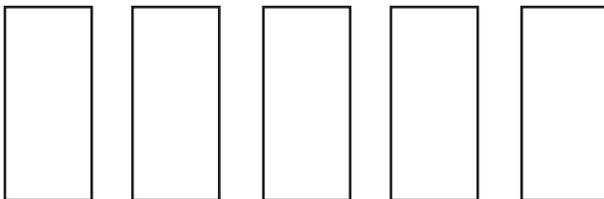


3 sixths of a sandwich

2. 8 classmates share 4 pizzas equally.



3. 4 teammates share 5 granola bars equally. Draw to show how much each person gets. Shade the amount that one person gets. Write the answer.



Problem Solving **REAL WORLD**

4. Three brothers share 2 sandwiches equally. How much of a sandwich does each brother get?

5. Six neighbors share 4 pies equally. How much of a pie does each neighbor get?

Name _____

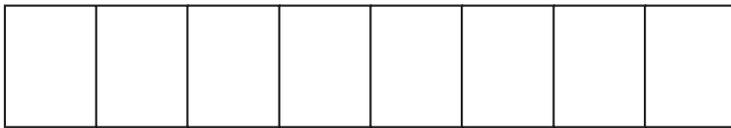
Unit Fractions of a Whole

A **fraction** is a number. It names part of a whole or part of a group.

The top number tells how many equal parts are being counted.
The bottom number tells how many equal parts are in the whole.
A **unit fraction** names 1 equal part of a whole. It always has 1 as its top number.

How much is 1 part of a fruit bar that is cut into 8 equal parts?

Step 1 Use fraction strips. Make a strip showing 8 equal parts, or eighths.



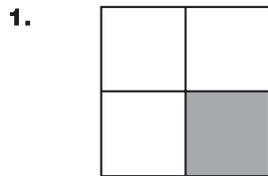
Step 2 Shade 1 of the parts and name it.



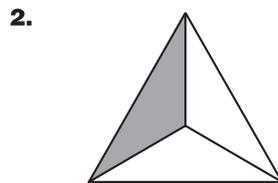
This fraction is called $\frac{1}{8}$.

So, 1 part of a fruit bar that can be divided into 8 equal parts is $\frac{1}{8}$.

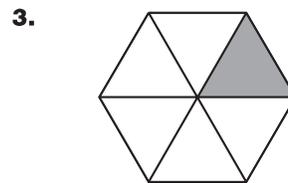
**Write the number of equal parts in the whole.
Then write the fraction that names the shaded part.**



_____ equal parts



_____ equal parts



_____ equal parts

Name _____

Unit Fractions of a Whole

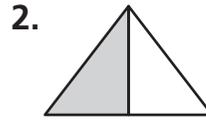


COMMON CORE STANDARD MACC.3.NF.1.1
Develop understanding of fractions as numbers.

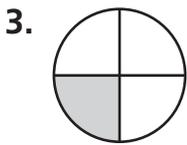
Write the number of equal parts in the whole.
Then write the fraction that names the shaded part.



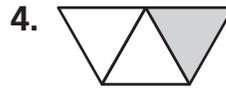
_____ **6** equal parts
_____ $\frac{1}{6}$ _____



_____ equal parts

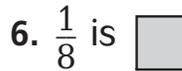
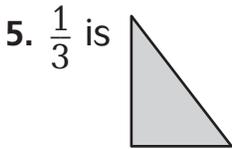


_____ equal parts



_____ equal parts

Draw a picture of the whole.



Problem Solving



7. Tyler made a pan of cornbread. He cut it into 8 equal pieces and ate 1 piece. What fraction of the cornbread did Tyler eat?

8. Anna cut an apple into 4 equal pieces. She gave 1 piece to her sister. What fraction of the apple did Anna give to her sister?

Fractions of a Whole

Some shapes can be cut into equal parts.
A fraction can name more than 1 equal part of a whole.

Write a fraction in words and in numbers to name the shaded part.



How many equal parts make up the whole shape? **6 equal parts**

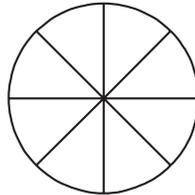
How many parts are shaded? **3 parts**

So, 3 parts out of 6 equal parts are shaded. Read: **three sixths**. Write: $\frac{3}{6}$

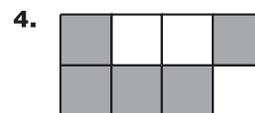
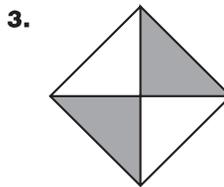
- 1.** Shade three parts out of eight equal parts. Write a fraction in words and in numbers to name the shaded part.

Read: _____ eighths

Write: _____



Write the fraction that names each part. Write a fraction in words and in numbers to name the shaded part.



Each part is _____.

_____ sixths

Each part is _____.

_____ fourths

Each part is _____.

_____ eighths

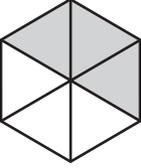
Name _____

Fractions of a Whole

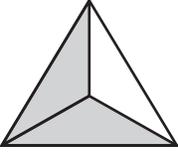


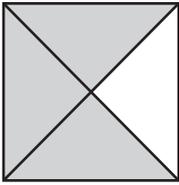
COMMON CORE STANDARD MACC.3.NF.1.1
Develop understanding of fractions as numbers.

Write the fraction that names each part. Write a fraction in words and in numbers to name the shaded part.

1.  Each part is $\frac{1}{6}$.
 _____ **three** _____ sixths
 $\frac{3}{6}$

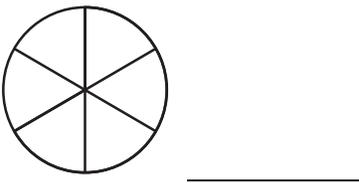
2.  Each part is _____.
 _____ eighths

3.  Each part is _____.
 _____ thirds

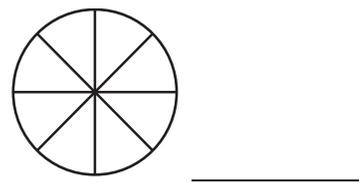
4.  Each part is _____.
 _____ fourths

Shade the fraction circle to model the fraction. Then write the fraction in numbers.

5. four out of six



6. eight out of eight



Problem Solving **REAL WORLD**

7. Emma makes a poster for the school's spring concert. She divides the poster into 8 equal parts. She uses two of the parts for the title. What fraction of the poster does Emma use for the title?

8. Lucas makes a flag. It has 6 equal parts. Five of the parts are red. What fraction of the flag is red?

Fractions on a Number Line

Use the fraction strips to help name the points on the number line.

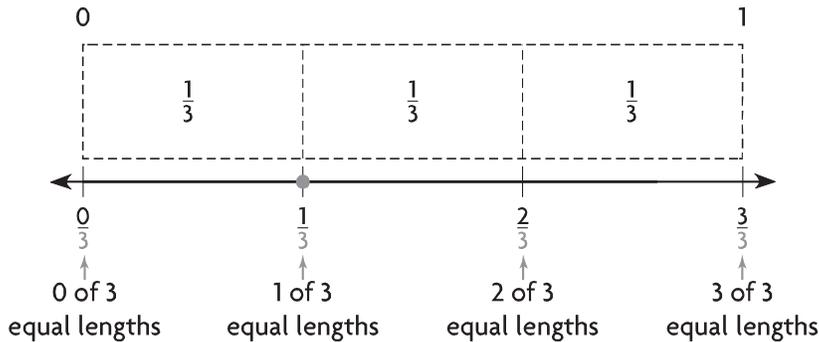
Draw a point to show $\frac{1}{3}$.

Step 1 The denominator is 3, so use fraction strips for thirds. Place the fraction strips above the number line. Use the fraction strips to divide the number line into three equal lengths.

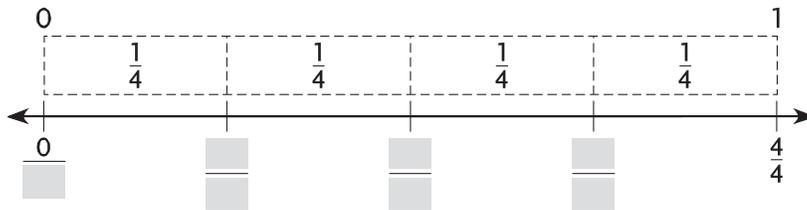
Step 2 Label each mark on the number line.

Think: The distance between each mark is $\frac{1}{3}$ of the total distance, so count the number of $\frac{1}{3}$ lengths.

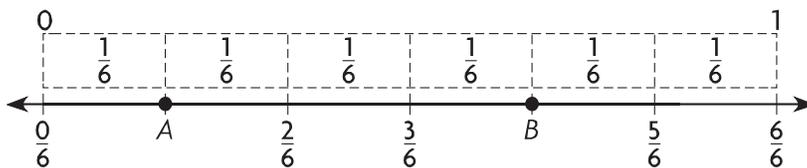
Step 3 Draw a point on the number line to show $\frac{1}{3}$.



1. Complete the number line. Draw a point to show $\frac{2}{4}$.



Write the fraction that names the point.



2. point A _____

3. point B _____

Name _____

Fractions on a Number Line

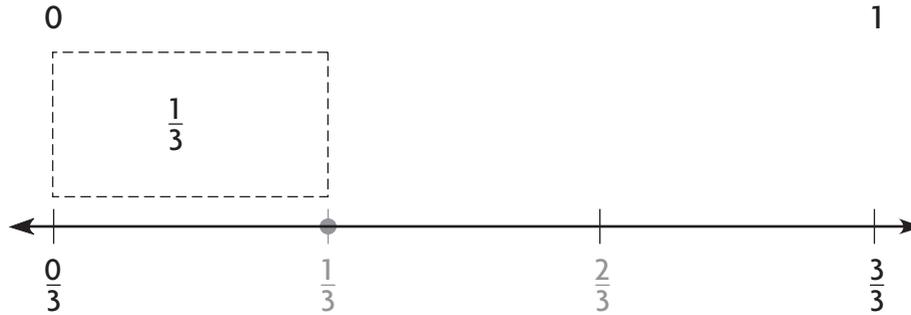


COMMON CORE STANDARDS MACC.3.NF.1.2a,
MACC.3.NF.1.2b

Develop understanding of fractions as numbers.

Use fraction strips to help you complete the number line. Then locate and draw a point for the fraction.

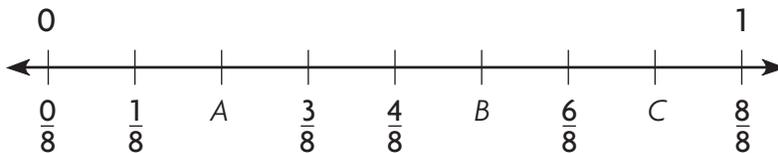
1. $\frac{1}{3}$



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



Write the fraction that names the point.



3. point A _____

4. point B _____

5. point C _____

Problem Solving **REAL WORLD**

6. Jade ran 6 times around her neighborhood to complete a total of 1 mile. How many times will she need to run to complete $\frac{5}{6}$ of a mile?

7. A missing fraction on a number line is located exactly halfway between $\frac{3}{6}$ and $\frac{5}{6}$. What is the missing fraction?

Lesson Check (MACC.3.NF.1.1)

1. How many equal parts are in this shape?



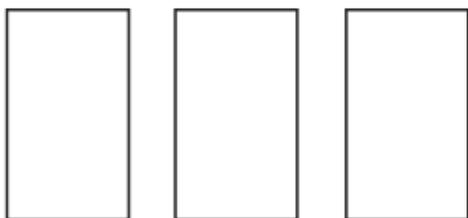
- (A) 3
- (B) 4
- (C) 5
- (D) 6

2. What is the name for the equal parts of the whole?



- (A) fourths
- (B) sixths
- (C) eighths
- (D) thirds

1. Two friends share 3 fruit bars equally. How much does each friend get?



- (A) 1 half
- (B) 2 thirds
- (C) 2 halves
- (D) 3 halves

2. Four brothers share 3 pizzas equally. How much of a pizza does each brother get?



- (A) 3 halves
- (B) 4 thirds
- (C) 3 fourths
- (D) 2 fourths

1. What fraction names the shaded part?



- (A) $\frac{1}{3}$
- (B) $\frac{1}{4}$
- (C) $\frac{1}{6}$
- (D) $\frac{1}{8}$

2. Tasha cut a fruit bar into 3 equal parts. She ate 1 part. What fraction of the fruit bar did Tasha eat?

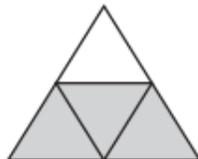
- (A) $\frac{1}{2}$
- (B) $\frac{1}{3}$
- (C) $\frac{1}{4}$
- (D) $\frac{1}{6}$

1. What fraction names the shaded part?



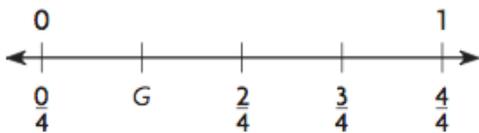
- (A) $\frac{4}{6}$
- (B) $\frac{2}{4}$
- (C) $\frac{4}{8}$
- (D) $\frac{2}{6}$

2. What fraction names the shaded part?



- (A) one fourth
- (B) one third
- (C) three fourths
- (D) four thirds

1. Which fraction names point G on the number line?



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

2. Which fraction names point R on the number line?



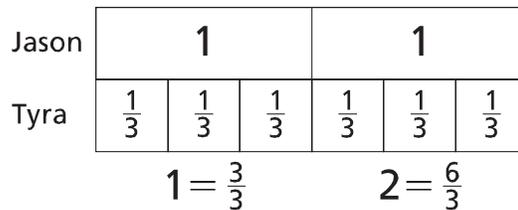
- (A) $\frac{1}{3}$
- (B) $\frac{2}{3}$
- (C) $\frac{3}{3}$
- (D) $\frac{3}{2}$

Relate Fractions and Whole Numbers

A fraction greater than 1 has a numerator greater than its denominator.

Jason ran 2 miles and Tyra ran $\frac{6}{3}$ miles. Did Jason and Tyra run the same distance?

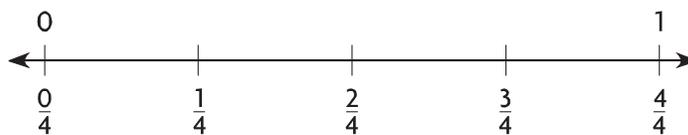
Step 1 Use fraction strips to show the distances.
Use 2 whole strips to show Jason's distance.
Use six $\frac{1}{3}$ -strips to show Tyra's distance.



Step 2 Compare the fraction strips.
Since the fraction strips for 2 and $\frac{6}{3}$ are the same length, they are equal.

So, Jason and Tyra ran the same distance.

Use the number line to find whether the two numbers are equal. Write *equal* or *not equal*.



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

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

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

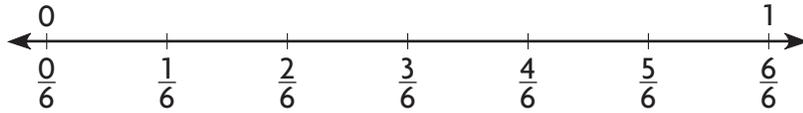
Name _____

Relate Fractions and Whole Numbers



COMMON CORE STANDARD MACC.3.NF.1.3c
Develop an understanding of fractions as numbers.

Use the number line to find whether the two numbers are equal. Write *equal* or *not equal*.



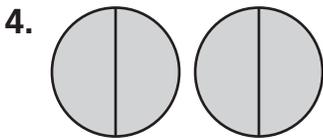
1. $\frac{0}{6}$ and 1

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

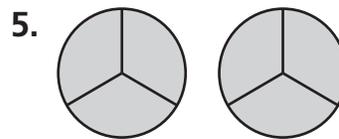
3. $\frac{1}{6}$ and $\frac{6}{6}$

not equal

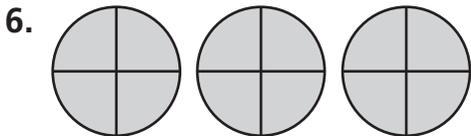
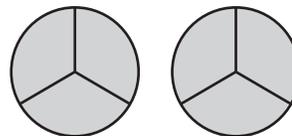
Each shape is 1 whole. Write a fraction greater than 1 for the parts that are shaded.



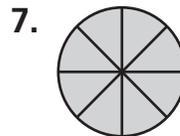
2 = _____



4 = _____



3 = _____



1 = _____

Problem Solving REAL WORLD

8. Rachel jogged along a trail that was $\frac{1}{4}$ of a mile long. She jogged along the trail 8 times. How many miles did Rachel jog in all?

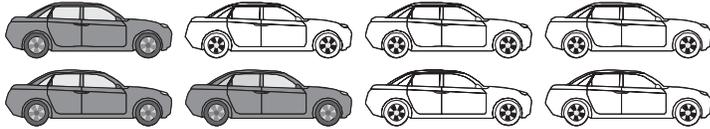
9. Jon ran around a track that was $\frac{1}{8}$ of a mile long. He ran around the track 24 times. How many miles did Jon run in all?

Name _____

Fractions of a Group

Adam has a collection of cars.

What fraction names the shaded part of the collection?



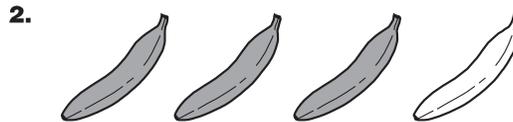
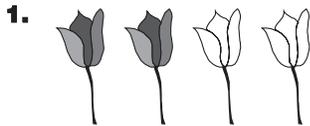
Step 1 Count how many cars are shaded. There are **3** shaded cars. This number will be the **numerator**, or the top number of the fraction.

Step 2 Count the total number of cars. **8** This number will be the **denominator**, or the bottom number of the fraction.

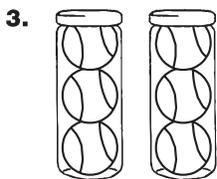
Step 3 Read the fraction: three eighths, or three out of eight.

So, $\frac{3}{8}$ of Adam's cars are shaded.

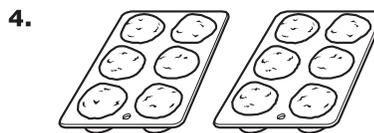
Write a fraction to name the shaded part of each group.



Write a whole number and a fraction greater than 1 to name the part filled.



Think: 1 can = 1



Think: 1 pan = 1

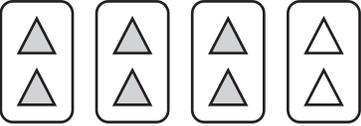
Name _____

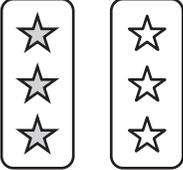
Fractions of a Group



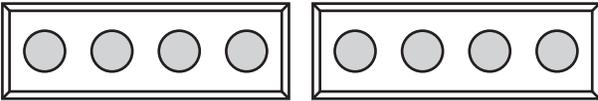
COMMON CORE STANDARD MACC.3.NF.1.1
Develop understanding of fractions as numbers.

Write a fraction to name the shaded part of each group.

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

2.  _____

Write a whole number and a fraction greater than 1 to name the part filled. Think: 1 container = 1

3.  _____

4.  _____

Draw a quick picture. Then, write a fraction to name the shaded part of the group.

5. Draw 4 circles.
Shade 2 circles.

6. Draw 6 circles.
Make 3 groups.
Shade 1 group.

Problem Solving



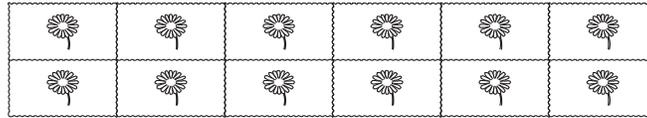
7. Brian has 3 basketball cards and 5 baseball cards. What fraction of Brian's cards are baseball cards?

8. Sophia has 3 pink tulips and 3 white tulips. What fraction of Sophia's tulips are pink?

Name _____

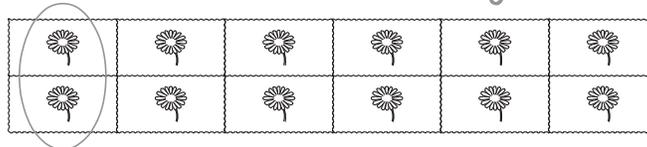
Find Part of a Group Using Unit Fractions

Lauren bought 12 stamps for postcards. She gave Brianna $\frac{1}{6}$ of them. How many stamps did Lauren give to Brianna?



Step 1 Find the total number of stamps. **12 stamps**

Step 2 Since you want to find $\frac{1}{6}$ of the group, there should be 6 equal groups. Circle one of the groups to show $\frac{1}{6}$.



Step 3 Find $\frac{1}{6}$ of the stamps. How many stamps are in 1 group? **2 stamps**

So, Lauren gave Brianna 2 stamps. $\frac{1}{6}$ of 12 = 2

Circle equal groups to solve. Count the number of shapes in 1 group.

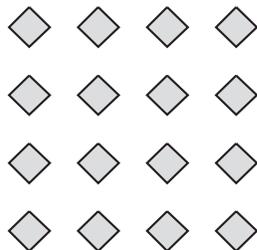
1. $\frac{1}{4}$ of 8 = _____



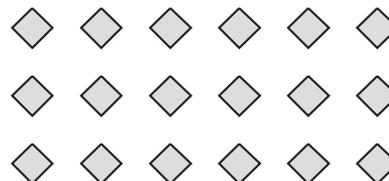
2. $\frac{1}{3}$ of 9 = _____



3. $\frac{1}{4}$ of 16 = _____



4. $\frac{1}{6}$ of 18 = _____



Name _____

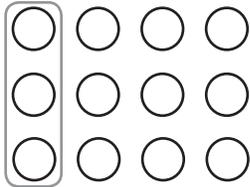
Find Part of a Group Using Unit Fractions



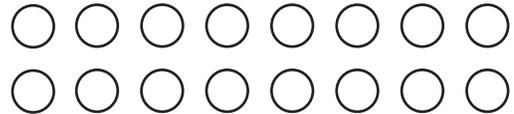
COMMON CORE STANDARD MACC.3.NF.1.1
Develop understanding of fractions as numbers.

Circle equal groups to solve. Count the number of items in 1 group.

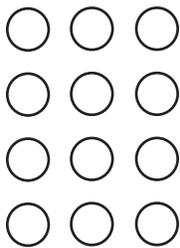
1. $\frac{1}{4}$ of 12 = 3



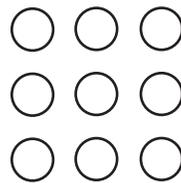
2. $\frac{1}{8}$ of 16 = _____



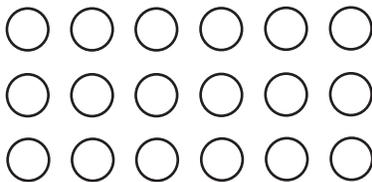
3. $\frac{1}{3}$ of 12 = _____



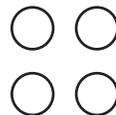
4. $\frac{1}{3}$ of 9 = _____



5. $\frac{1}{6}$ of 18 = _____



6. $\frac{1}{2}$ of 4 = _____



Problem Solving REAL WORLD

7. Marco drew 24 pictures. He drew $\frac{1}{6}$ of them in art class. How many pictures did Marco draw in art class?

8. Caroline has 16 marbles. One eighth of them are blue. How many of Caroline's marbles are blue?

Name _____

Problem Solving • Find the Whole Group Using Unit Fractions

There are 3 apple juice boxes in the cooler. One fourth of the juice boxes in the cooler are apple juice. How many juice boxes are in the cooler?

Read the Problem	Solve the Problem
<p>What do I need to find?</p> <p>I need to find <u>how many juice boxes</u> are in the cooler.</p>	<p>Describe how to draw a diagram to solve.</p> <p>The denominator in $\frac{1}{4}$ tells you that there are <u>4</u> parts in the whole group. Draw 4 circles to show <u>4</u> parts.</p>
<p>What information do I need to use?</p> <p>There are <u>3</u> apple juice boxes. <u>One fourth</u> of the juice boxes are apple juice.</p>	<p>Since 3 juice boxes are $\frac{1}{4}$ of the group, draw <u>3</u> counters in the first circle.</p> <p>Since there are <u>3</u> counters in the first circle, draw <u>3</u> counters in each of the remaining circles. Then count all of the counters.</p>
<p>How will I use the information?</p> <p>I will use the information in the problem to draw a diagram.</p>	<p>So, there are <u>12</u> juice boxes in the cooler.</p>



1. Max has 3 beta fish in his fish tank. One half of his fish are beta fish. How many fish does Max have in his tank?

2. Two boys are standing in line. One sixth of the students in line are boys. How many students are standing in line?

Name _____

Problem Solving • Find the Whole Group Using Unit Fractions

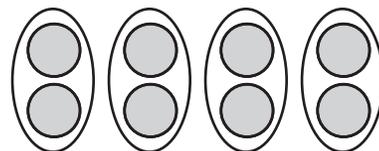


COMMON CORE STANDARD MACC.3.NF.1.1

Develop understanding of fractions as numbers.

Draw a quick picture to solve.

1. Katrina has 2 blue ribbons for her hair. One fourth of all her ribbons are blue. How many ribbons does Katrina have in all?



8 ribbons

2. One eighth of Tony's books are mystery books. He has 3 mystery books. How many books does Tony have in all?

3. Brianna has 4 pink bracelets. One third of all her bracelets are pink. How many bracelets does Brianna have?

4. Ramal filled 3 pages in a stamp album. This is one sixth of the pages in the album. How many pages are there in Ramal's stamp album?

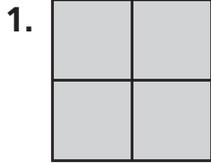
5. Jeff helped repair one half of the bicycles in a bike shop last week. If Jeff worked on 5 bicycles, how many bicycles did the shop repair in all last week?

6. Layla collects postcards. She has 7 postcards from Europe. Her postcards from Europe are one third of her total collection. How many postcards in all does Layla have?

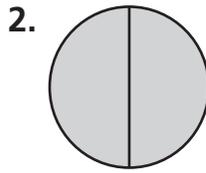
Chapter 8 Extra Practice

Lesson 8.1

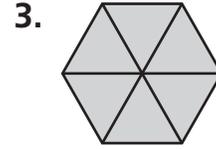
Write the number of equal parts. Then write the name for the parts.



____ equal parts



____ equal parts

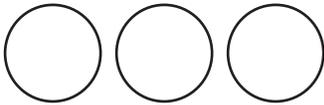


____ equal parts

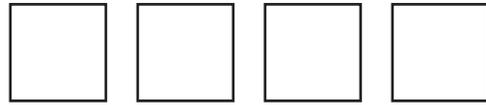
Lesson 8.2

Draw lines to show how much each person gets. Write the answer.

1. 4 friends share 3 oranges equally.

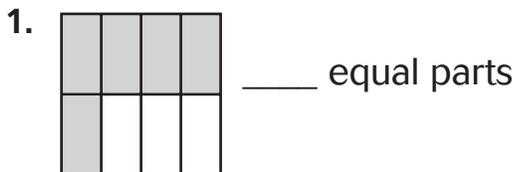


2. 6 sisters share 4 sandwiches equally.

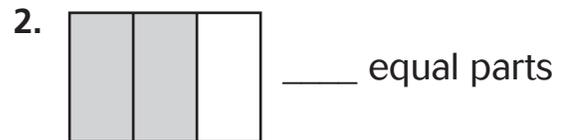


Lessons 8.3 - 8.4

Write the number of equal parts in the whole. Write a fraction in words and in numbers to name the shaded part.



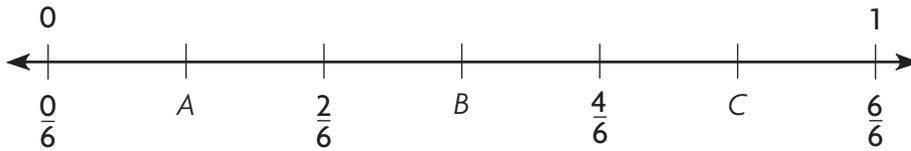
_____ eighths



_____ thirds

Lesson 8.5

Write the fraction that names the point.



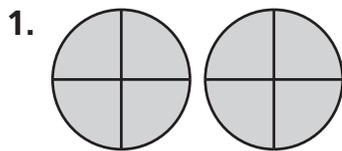
1. point A _____

2. point B _____

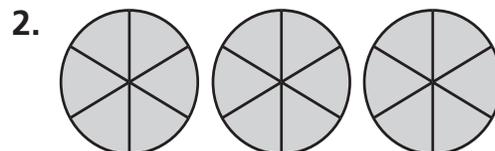
3. point C _____

Lesson 8.6

Each shape is 1 whole. Write a fraction greater than 1 for the parts that are shaded.



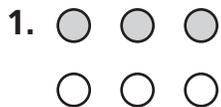
2 = _____

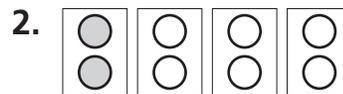


3 = _____

Lesson 8.7

Write a fraction to name the shaded part of each group.





Lessons 8.8 - 8.9

Draw a quick picture to solve.

1. Charlotte has 12 T-shirts. One fourth of her T-shirts are green. How many of Charlotte's T-shirts are green?

2. Josh walks 18 dogs each week. Today, he is walking $\frac{1}{3}$ of the dogs. How many dogs is he walking today?
