TASK #1

THE PLAN

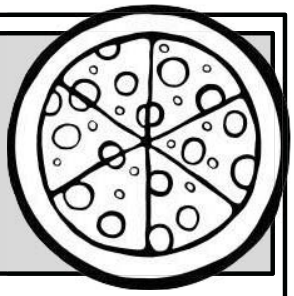
Your very own pizza place? You can't believe it! Let's get started!

First, think of a name for your pizza place.

It'll be very important to advertise! Design a poster that you can put up around town.

TASK #2

THE MENU



You will be known for your amazing pizza, but it's important to offer other choices too. Let's create the menu!

MENU

PIZZA

Pizza by the Slice: $_____
Small Pizza: $8.00
Medium Pizza: $10.00
Large Pizza: $_____

OTHER MEAL OPTIONS

Spaghetti and Meatballs: $5.00
Lasagna: $4.00
Pasta Alfredo: $4.00
Side Salad: $_____
Basket of Garlic Toast: $_____

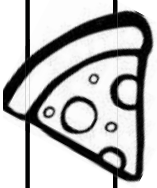
BEVERAGES

Lemonade: $1.50
Iced Tea: $1.50
Juice: $1.00
Coffee: $1.00
Tea: $1.00

Use the clues below to complete the menu prices:

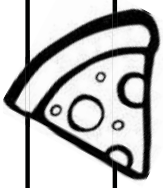
- Pizza by the slice is one-fourth of the price of a small pizza.

How can you figure this out? Show your work.



- A large pizza is $3.00 more than a medium pizza.
- A side salad is one-half of the price of lasagna.
- A basket of garlic toast is one-half of the price of a medium pizza.

How can you figure this out? Show your work.



THINK FAST!

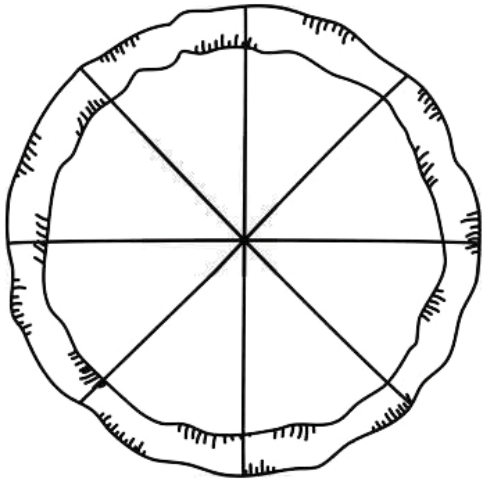
You have $6.00 in your pocket. Your friend says she has one-third of that amount. How much money does your friend have?

TASK #3

THE GRAND OPENING

It's opening day at the Pizza Place and it's going to be busy! Let's get cooking!

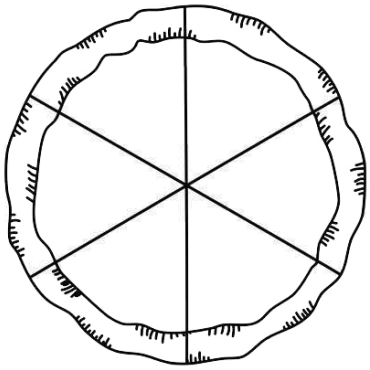
The fractions show the kinds of pizza that you'll make. Draw the ingredients.



$\frac{5}{8}$ pepperoni

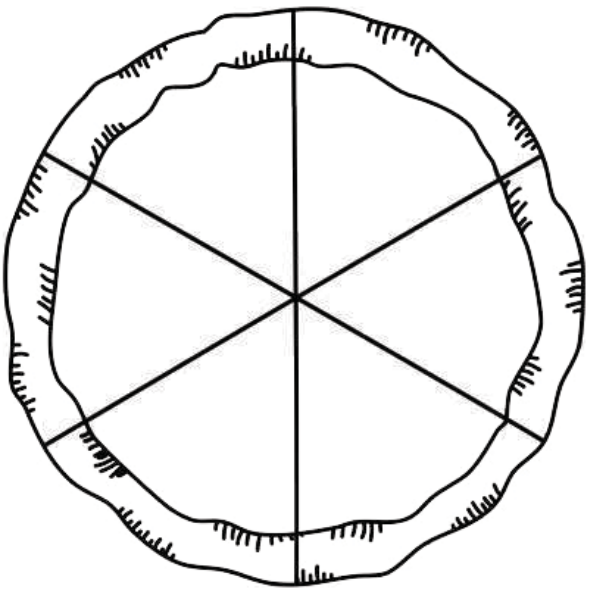
$\frac{1}{8}$ cheese

$\frac{2}{8}$ pepperoni and mushroom



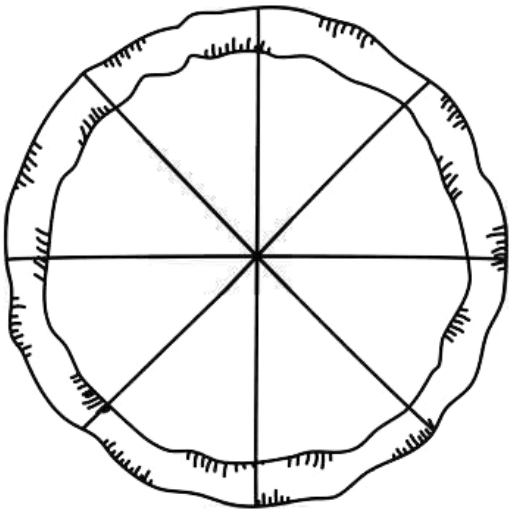
$\frac{3}{6}$ ham and green pepper

$\frac{3}{6}$ bacon and extra cheese



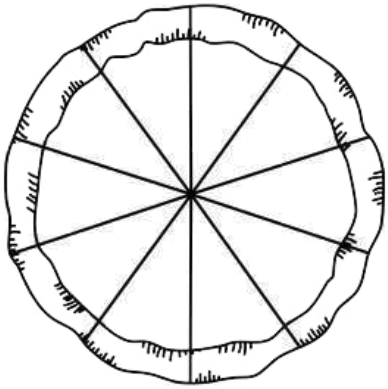
$\frac{2}{6}$ pepperoni

$\frac{4}{6}$ cheese



$\frac{3}{8}$ mushroom and tomato

$\frac{5}{8}$ cheeseburger delight



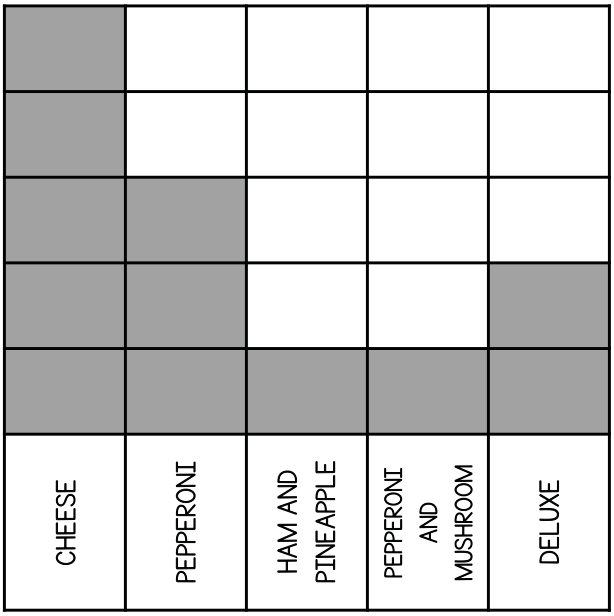
$\frac{3}{10}$ ham and pineapple

$\frac{6}{10}$ green pepper and tomato

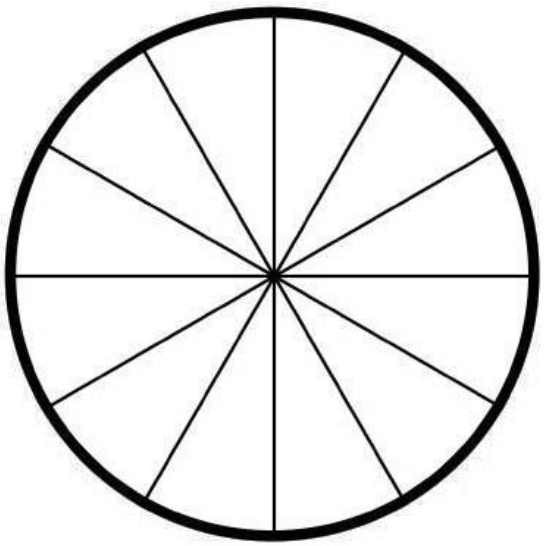
$\frac{1}{10}$ pepperoni

At the Grand Opening, you survey people to find out what their favorite type of pizza is. This will help your business! Here are the results:

FAVORITE TYPE OF PIZZA



Each space on the graph represents one-twelfth of the people. Transfer the data.



Suppose that each space on the graph represents 10 people. Answer the questions:

1. How many people prefer each type of pizza:

   cheese _____ pepperoni _____ ham and pineapple _____

   pepperoni and mushroom _____ deluxe _____

2. What fraction of people prefer each type of pizza?

   cheese _____ pepperoni _____ ham and pineapple _____

   pepperoni and mushroom _____ deluxe _____

3. Altogether, what fraction of people prefer cheese and pepperoni pizza? _____

4. Altogether, what fraction of people prefer ham and pineapple and deluxe? _____

   Now represent this fraction another way:

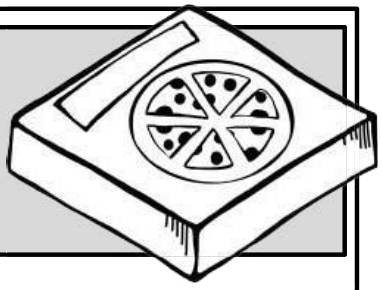
5. Altogether, what fraction of people prefer cheese, pepperoni, and deluxe pizza? _____

   Now represent this fraction another way:

TASK #4

PIZZA DELIVERY

Let's take a look at some of the delivery orders from today.



PIZZA DELIVERY ORDER #1

Type of Pizza	How many?	Cost per Pizza	Total Cost
Cheese	3	$8.00	
Pepperoni	2	$8.00	
Bacon and Mushroom	3	$8.00	
		Delivery Charge	$5.00
		Total Cost	

Answer the Questions:

1. How many pizzas were ordered altogether? _____
2. What fraction of the pizzas are pepperoni?

NUMBER FORM:

WORD FORM:

3. What fraction of the pizzas are bacon and mushroom?

NUMBER FORM:

WORD FORM:

PIZZA DELIVERY ORDER #2

Type of Pizza	How many?	Cost per Pizza	Total Cost
Ham and Pineapple	1	$8.00	
Cheese	1	$8.00	
Pepperoni and Bacon	2	$8.00	
		Delivery Charge	$5.00
		Total Cost	

Answer the Questions:

1. How many pizzas were ordered altogether? _____
2. What fraction of the pizzas are ham and pineapple?

NUMBER FORM:

WORD FORM:

3. What fraction of the pepperoni and bacon?

NUMBER FORM:

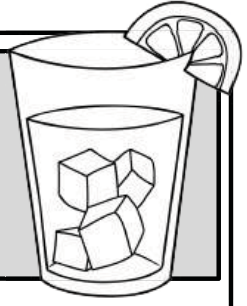
WORD FORM:

THINK FAST! Circle the fractions that have a NUMERATOR of 5.

TASK #5

DRINK ORDERS

The first job after greeting your customers is to take drink orders.



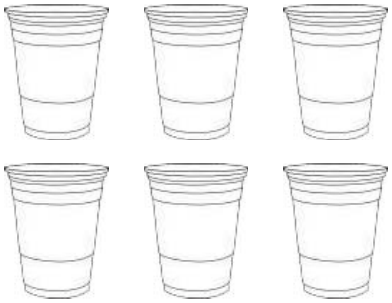
First, let's choose a color to represent each type of drink. Shade the crayons to show the colors that you will use.

Lemonade Iced Tea Juice Coffee Tea

Shade the drinks and represent each type of drink as a fraction of the total.

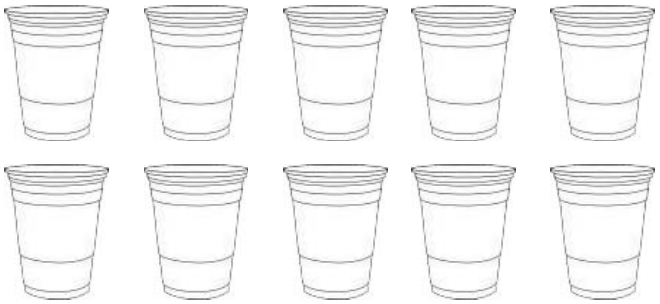
ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Iced Tea	3	
Juice	2	
Lemonade	1	

Shade the cups:



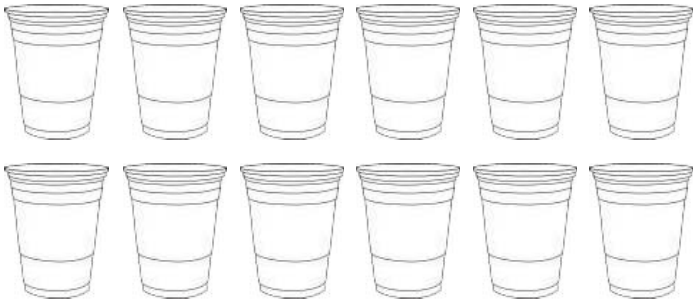
ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Coffee	4	
Tea	5	
Juice	1	

Shade the cups:



ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Lemonade	3	
Tea	2	
Juice	1	
Coffee	6	

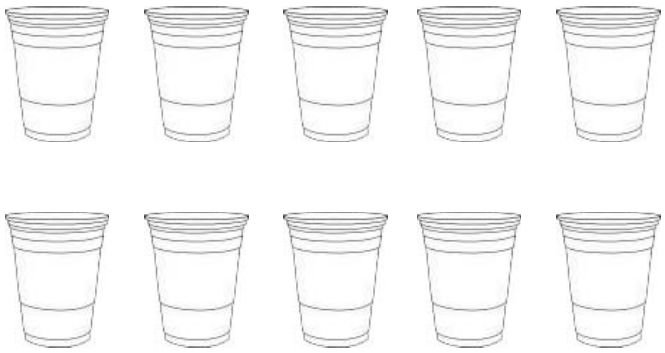
Shade the cups:



Fill in the missing spaces on the chart and then shade the cups.

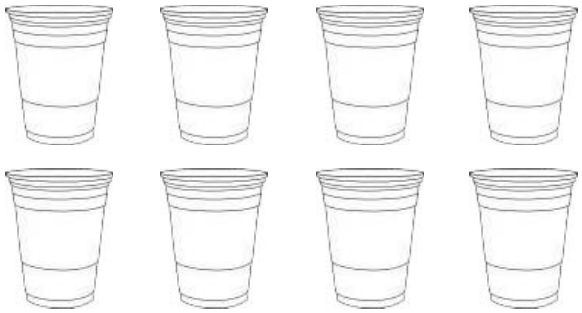
ORDER FORM		
Type of Drink	Fraction of the Total Drinks	Fraction in Word Form
Coffee	$\frac{1}{10}$	
Tea	$\frac{2}{10}$	
Juice		one-tenth
Lemonade	$\frac{4}{10}$	
Iced Tea		two-tenths

Shade the cups:



ORDER FORM		
Type of Drink	Fraction of the Total Drinks	Fraction in Word Form
Iced Tea		four-eighths
Juice		one-eighth
Lemonade	$\frac{3}{8}$	

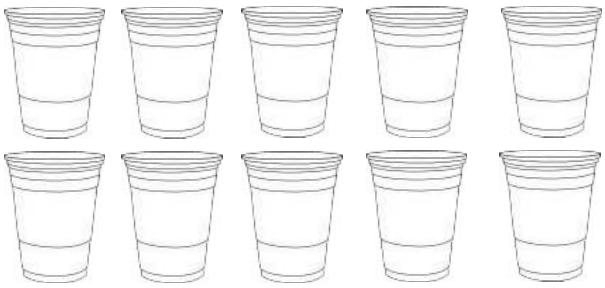
Shade the cups:



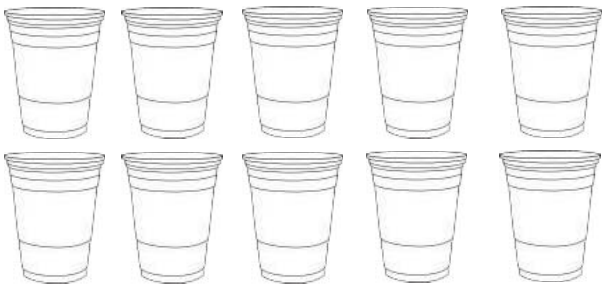
Let's work with **equivalent fractions.**

This picture shows $\frac{4}{10}$. Does it also represent $\frac{2}{5}$? Explain how you know.

Represent the fraction three-fifths.



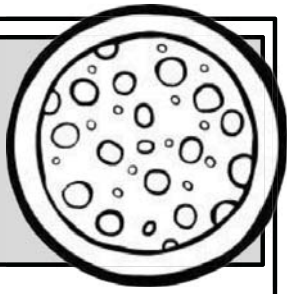
Represent the fraction $\frac{1}{5}$.



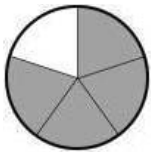
TASK #6

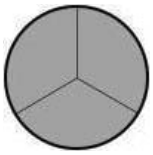
A NEW SPECIALTY

You've introduced two new types of specialty pizza to your restaurant! Let's find out what they are!



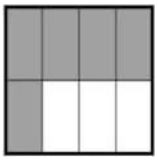
First of all, write the fraction that is represented for each letter.

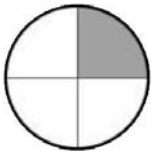
A:  ____

B:  ____

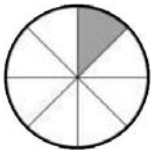
C:  ____

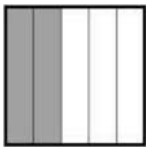
D:  ____

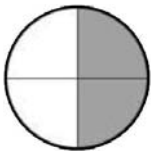
E:  ____

F:  ____

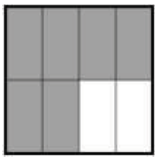
G:  ____

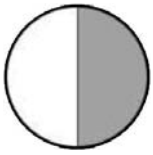
H:  ____

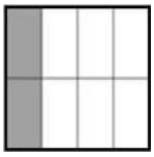
I:  ____

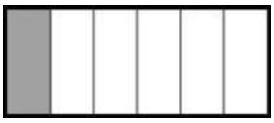
J:  ____

K:  ____

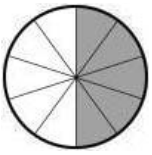
L:  ____

M:  ____

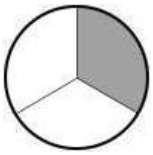
N:  ____

O:  ____

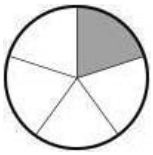
P:  ____

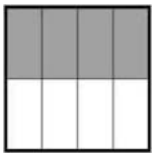
Q:  ____

R:  ____

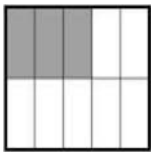
S:  ____

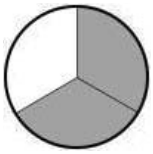
T:  ____

U:  ____

V:  ____

W:  ____

X:  ____

Y:  ____

Z:  ____

Now let's figure out the two new kinds of specialty pizza!

The first kind of specialty pizza is:

$\frac{1}{3}$ $\frac{3}{6}$ $\frac{5}{8}$ $\frac{4}{5}$ $\frac{3}{5}$

$\frac{4}{4}$ $\frac{2}{5}$ $\frac{4}{6}$ $\frac{4}{6}$ $\frac{4}{5}$

$\frac{3}{4}$ $\frac{2}{5}$ $\frac{3}{6}$ $\frac{1}{8}$

$\frac{4}{5}$

$\frac{1}{3}$ $\frac{2}{5}$ $\frac{2}{6}$ $\frac{5}{8}$

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

$\frac{3}{3}$ $\frac{3}{3}$ $\frac{5}{10}$

$\frac{1}{3}$ $\frac{4}{5}$ $\frac{1}{5}$ $\frac{7}{10}$ $\frac{5}{8}$

The second kind of specialty pizza is:

$\frac{3}{3}$ $\frac{4}{5}$ $\frac{3}{5}$ $\frac{5}{8}$ $\frac{2}{6}$

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

$\frac{4}{4}$ $\frac{2}{5}$ $\frac{4}{6}$ $\frac{4}{6}$ $\frac{4}{5}$

$\frac{3}{4}$ $\frac{2}{5}$ $\frac{3}{6}$ $\frac{1}{8}$

$\frac{4}{5}$

$\frac{1}{3}$ $\frac{3}{6}$ $\frac{1}{5}$ $\frac{1}{4}$ $\frac{1}{4}$ $\frac{5}{8}$ $\frac{2}{6}$

$\frac{7}{10}$ $\frac{5}{6}$ $\frac{1}{5}$ $\frac{1}{3}$ $\frac{3}{6}$

Which of the specialty pizzas would you prefer? Draw a picture of what you think it would look like.

_____

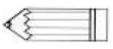
_____

_____

_____

_____

THINK FAST!



Circle the fractions that are greater than one-half.

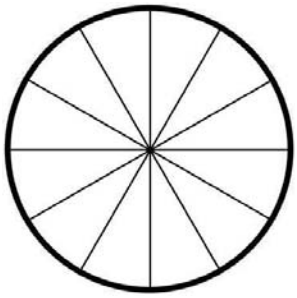
$\frac{1}{3}$ $\frac{4}{5}$ $\frac{4}{4}$ $\frac{1}{6}$ $\frac{3}{4}$ $\frac{7}{10}$ $\frac{1}{4}$ $\frac{4}{5}$ $\frac{5}{6}$

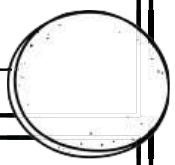
TASK #7

PIZZA PROBLEMS!

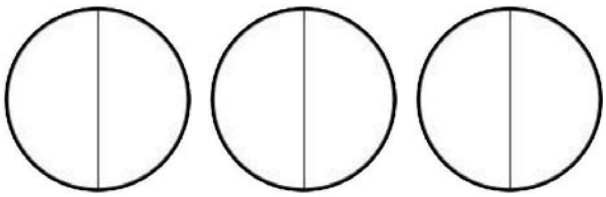
In any business or job, you will run into problems that need to be solved! Let's take a look at a few of the problems that you encounter this week.

A large pizza has 12 slices. Your customer wants $\frac{1}{4}$ with pepperoni and the rest with ham. How many pieces have pepperoni? How many pieces have ham?

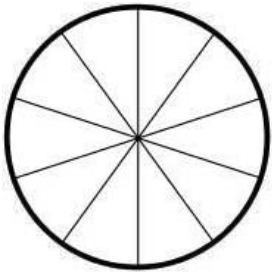


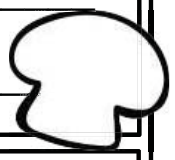


You usually put 3 cups of cheese on a large pizza. A customer asks for half the amount of cheese. How much cheese will you put on the pizza?



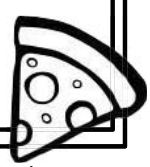
You cut a pizza into 10 slices. Five-tenths of the pieces are ham and pineapple. Two-tenths of the pieces are bacon and mushroom. The rest are cheese. What fraction of the slices are cheese?





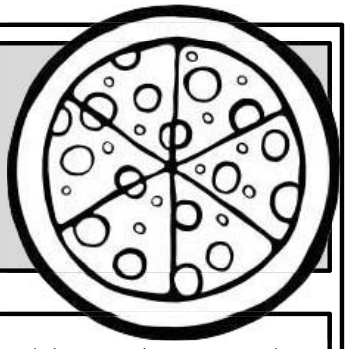
THINK FAST! 

Pizza is your favorite food and you are STARVING! Would you rather have $\frac{1}{4}$ of a pizza or $\frac{1}{6}$ of a pizza? Why?



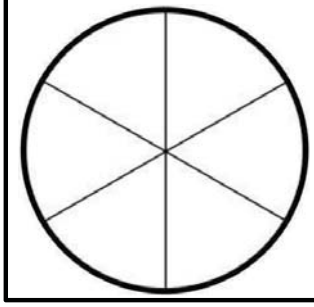
TASK #8

DOUBLE THE INGREDIENTS



A large pizza uses twice the amount of each ingredient as a small pizza. Double each amount on the chart to show the amount for a large pizza.

Ingredient	Amount for a Small Pizza	Double the fraction.	Amount for a Large Pizza
Sauce	$\frac{1}{2}$ cup	$\frac{1}{2} + \frac{1}{2} = 1$ cup	1 cup
Cheese	$1\frac{1}{2}$ cups		
Pepperoni	$\frac{1}{3}$ cup		
Ham	$\frac{1}{2}$ cup		
Mushrooms	$\frac{2}{5}$ cup		
Pineapple	$\frac{1}{4}$ cup		
Green peppers	$\frac{1}{4}$ cup		
Tomatoes	$\frac{2}{6}$ cup		



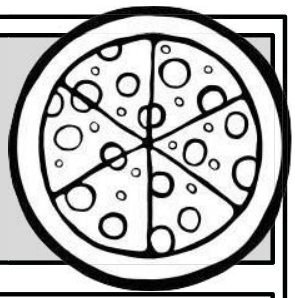
Oh no! You ran out of cheese! You need 1 cup and you only have $\frac{4}{6}$ of a cup. How much more cheese do you need?

_____

_____

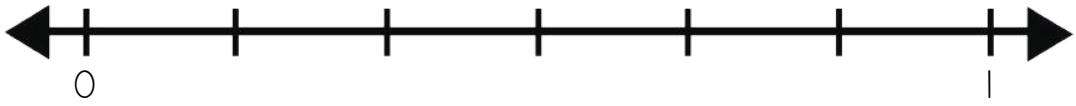
TASK #9

PIZZAS ON A NUMBER LINE



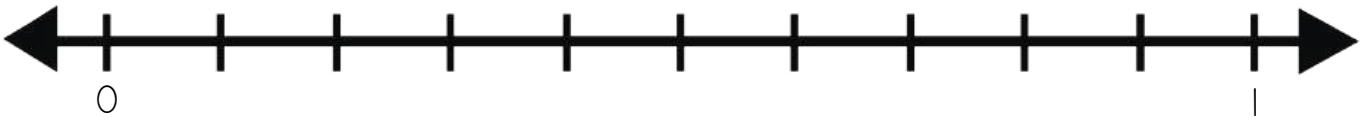
The Smith family ordered two pizzas. They ate $\frac{3}{6}$ of one pizza and $\frac{1}{6}$ of the second one. How much pizza did they eat in all? Use a number line to show your work. _____

_____



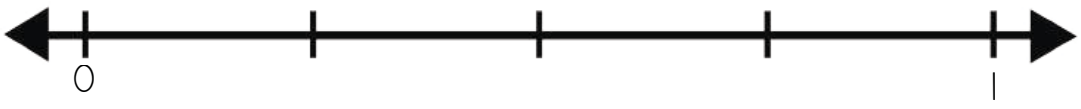
A medium pizza has 10 pieces. One-half of the pizza is ham and pineapple. How many pieces are NOT ham and pineapple? Show your work on the number line. _____

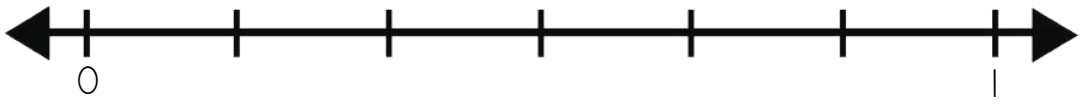
_____



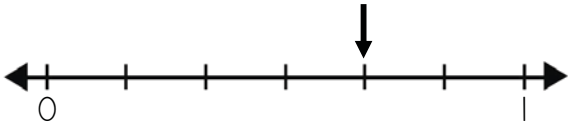
Maria eats one-fourth of a small pizza and Marshall eats one-sixth of a small pizza. Who ate more pizza? Prove it with the number lines. _____

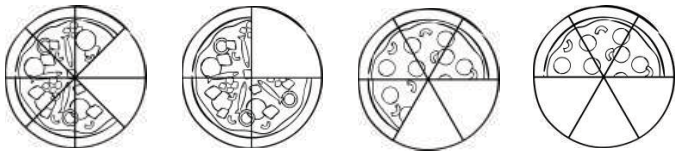
_____





Which of the pizzas does this number line represent? Circle it.





TASK #10

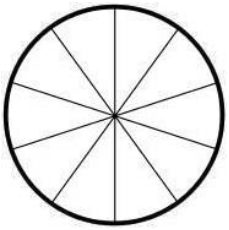
A PIZZA PARTY!

Today you're hosting a birthday party at your restaurant. Let's get planning!

Here are the facts:

There are 10 people at the pizza party. 8 of them are kids and two are adults. Represent this as a fraction:

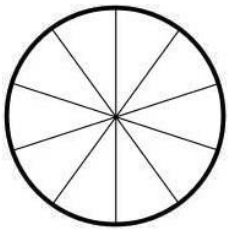
What fraction of the people are kids?



Fraction as a number:

Fraction in words:

What fraction of the people are adults?



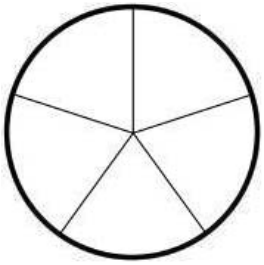
Fraction as a number:

Fraction in words:

Each person will eat 3 pieces of pizza. How many pieces will we need altogether?

We will make large pizzas for this group. A large pizza has 12 pieces. How many pizzas should we make?

You'll be putting out 2 pitchers of lemonade, 1 pitcher of iced tea, and 2 pitchers of water for the party. Represent each type of drink as a fraction of the total pitchers.



Pitchers of Lemonade (as a fraction):

Pitchers of Iced Tea (as a fraction):

Pitchers of Water (as a fraction):

THINK FAST! Write three fractions that are greater (more) than two-fifths.

Now let's make the pizzas!

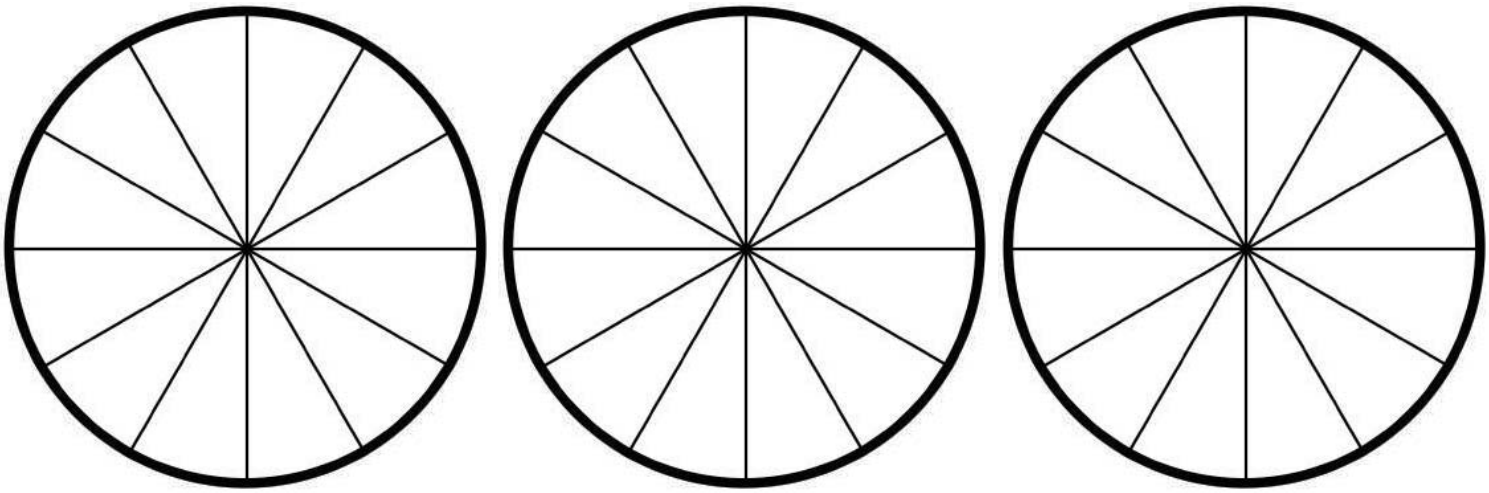
Here are the three pizzas that we'll make. Decide how much of each kind of pizza you should make. Then choose a color to represent each kind of pizza and shade the diagrams to match.

$\frac{\quad}{12}$ pepperoni 

$\frac{\quad}{12}$ ham and pineapple 

$\frac{\quad}{12}$ cheese 

$\frac{\quad}{12}$ deluxe 

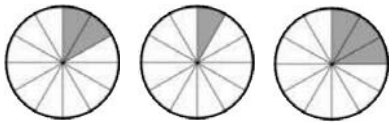


Write each of the fractions from above in words:

Type of Pizza	Fraction in Number Form	Fraction in Words
Pepperoni		
Cheese		
Ham and Pineapple		
Deluxe		

What's left?

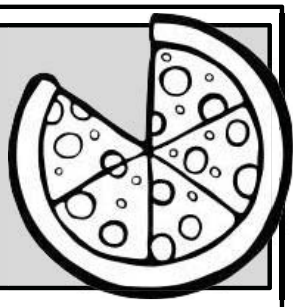
The shaded parts represent the pizza that is left over after the party. Write a fraction to represent the amount of pizza that is left.



TASK #11

WHO ATE MORE?

You'll serve 9 tables in all today . Let's take a look at what they are eating!



First you serve 5 tables for lunch. Fill in the chart to show how much of their pizza is left.

Table Number	Amount of Pizza Eaten	Amount of Pizza Left
Table #1	$\frac{8}{10}$	$\frac{2}{10}$
Table #2	$\frac{3}{10}$	
Table #3	$\frac{6}{10}$	
Table #4	$\frac{7}{10}$	
Table #5	$\frac{9}{10}$	

Use the chart to answer the questions:

Which table ate the most pizza?

Which table ate the least pizza?

Order the fractions of pizza eaten from least (smallest) to greatest (largest).

How much more pizza did Table #5 eat than Table #2? Write a fraction.

Each picture below represents the amount of pizza left over from one of the tables. Write the table number beneath each pizza.

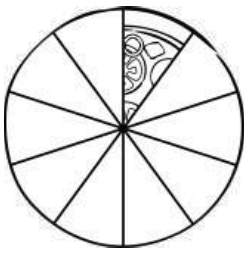


Table # _____

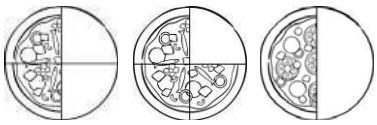
Table # _____

Table # _____

Table # _____

Table # _____

THINK FAST! Circle the two pizzas that show **equivalent (equal) fractions**. How do you know that they are equivalent?



_____

_____

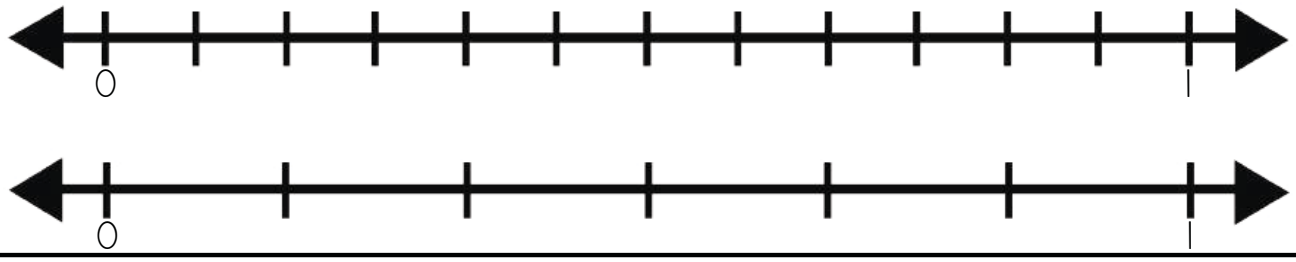
Now you're serving 4 more tables! All of the tables order a large pizza, but 2 tables want their pizza cut into 6 pieces instead of 12. The chart below shows the amount that each table ate.

Table Number	Amount of Pizza Eaten	Amount of Pizza Left
Table #1	$\frac{3}{6}$	
Table #2	$\frac{4}{12}$	
Table #3	$\frac{4}{6}$	
Table #4	$\frac{8}{12}$	

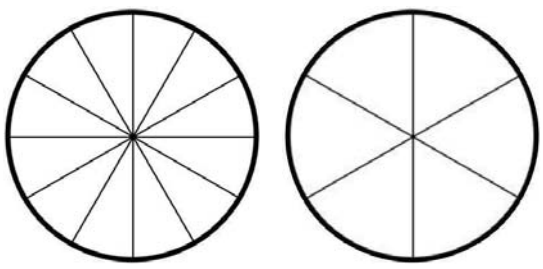
Circle three of the fractions in the chart. Write each one in word form.

Which table ate the most pizza?

Who ate more pizza – Table #2 or Table #3? How do you know? Use the number lines to prove it.



Which two tables ate the same amount of pizza? Use the diagrams to help you show your work



TASK #12

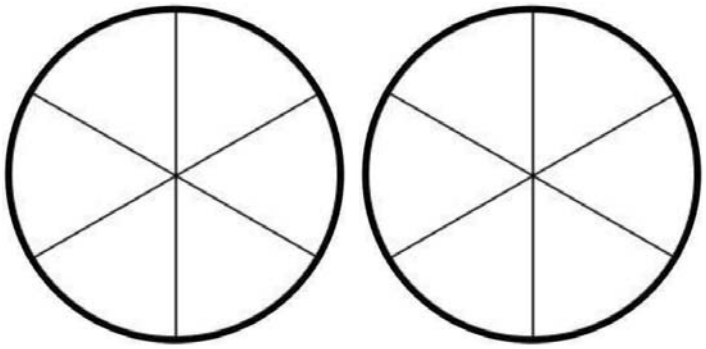
A PIECE AT A TIME

You've set up a pizza stand on the street outside your restaurant for the street festival. How much pizza will you sell?

So far 5 people have bought pieces of a small pepperoni pizza. Here are the fractions of a pizza that each person bought.

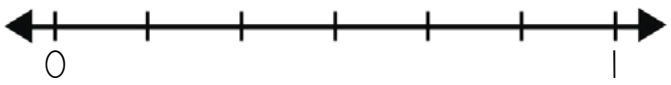
$\frac{2}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$

How much pizza has been purchased so far? Show the total on the diagrams.



Circle the fraction below that represents one full pizza. Then represent a full pizza on the number line.

$\frac{3}{6}$ $\frac{6}{6}$ $\frac{5}{6}$



Your pizza stand continues to be busy all day! At the end of the day, here is what you have left. Write each amount as a fraction in numbers and in words.

FRACTION AS A NUMBER:

FRACTION IN WORDS:

FRACTION AS A NUMBER:

FRACTION IN WORDS:

FRACTION AS A NUMBER:

FRACTION IN WORDS:

FRACTION AS A NUMBER:

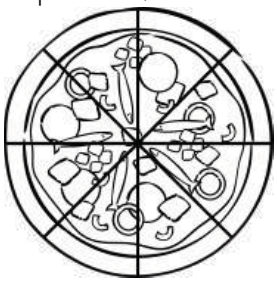
FRACTION IN WORDS:

TASK #13

CUSTOMER SERVICE COMES FIRST!

In any business it's important to keep our customers happy! Let's solve some customer problems!

A customer comes in today and says, **"I just went to the pizza place across the street and their pizza is way cheaper than yours! It's $4 for $\frac{1}{8}$ of a pizza at your restaurant and only $3 for $\frac{1}{8}$ of a pizza at the place across the street!"** You decide to investigate. You find that your pizza IS more expensive, but there's more to the story! Take a look at the pictures.

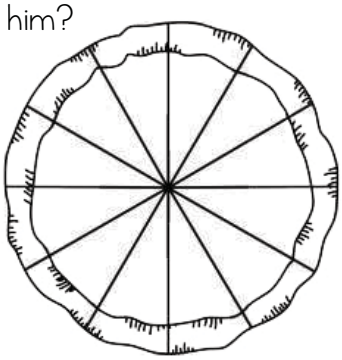


YOUR PIZZA

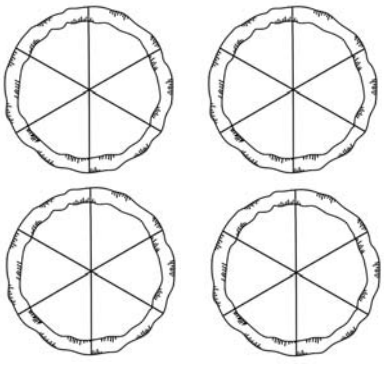
YOUR COMPETITOR'S PIZZA

Is $\frac{1}{8}$ of a pizza the same at both restaurants? What will you say to this customer?

One of your customers just came in to grab his regular Sunday night order - a large ham and bacon pizza. But on the way out he drops the box! "Oh no," he exclaims. "I just dropped one-fourth of my pizza on the floor!" You don't waste any time replacing the pieces that fell on the floor. After all, he comes in every Sunday and you want to treat him well! How many new pieces of pizza do you give him?



The phone rings. It's another order! "Hello, I'd like enough small pizzas to feed 5 people please. Each person will be eating $\frac{3}{6}$ of a small pizza. I'd also like to have about two extra pieces." What will you recommend for this customer?



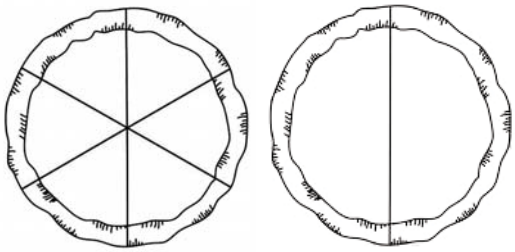
You have a customer on the phone ordering a pizza. She says, "Hello! I'd like a medium pizza please! I need $\frac{3}{6}$ cheese and $\frac{3}{6}$ ham."

"Ok," you reply, "so that's $\frac{1}{2}$ cheese and $\frac{1}{2}$ ham?"

"No," the customer responds. "I said $\frac{3}{6}$ cheese and $\frac{3}{6}$ ham."

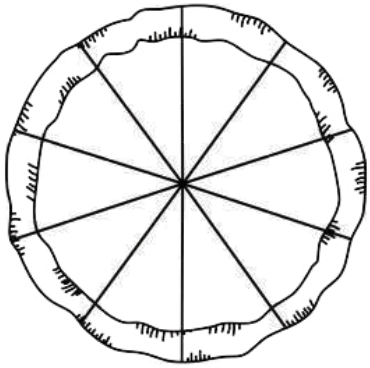
"Let me explain," you begin.

Explain to the customer why you are right about her order. Use the diagrams to help you explain.



As you walk through the restaurant, a man at a table gets your attention. "Excuse me," he begins, "I asked for $\frac{1}{2}$ a cup of cheese on this pizza, but it still tastes too cheesy!" You ask the cook and she says, "Oh dear! I accidentally put on $\frac{3}{4}$ of a cup of cheese!" How much more cheese was added than what should have been added?

A customer comes in to order a large pizza. "Hello," she says, "I'd like a medium cheese pizza. But I don't want it cut in 10 pieces like you usually do. I'd like each piece to be twice the size that it usually is. If you do that, how many pieces will I get?" You decide to show her with a pen and paper. Use the diagram and write down what you will say to her:



This conversation has made you realize a set of equivalent fractions! What are they?

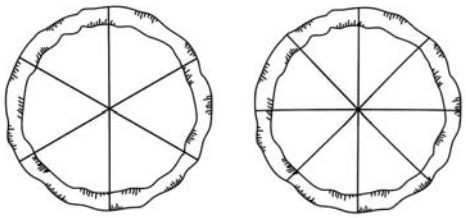
TASK #14

MORE OR LESS?

When you work at a pizza place it's important to understand how big each slice is depending on how the pizza is cut.

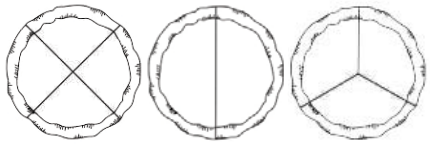
Which is more? Circle the fraction that is more and prove it using the diagram.

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



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

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



Complete this sentence:

When the numerator is the same, the bigger fraction is...

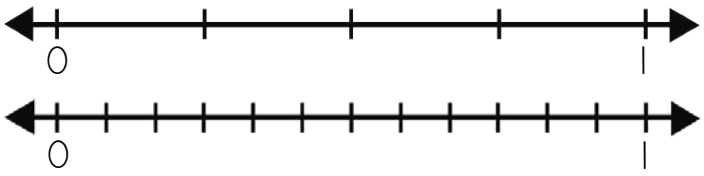
_____

_____

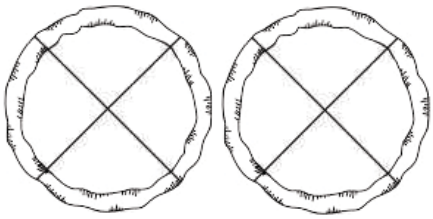
_____

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

$\frac{2}{4}$ $\frac{8}{12}$



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



Complete this sentence:

When the denominator is the same, the bigger fraction is...

_____

_____

_____

THINK FAST!

Suppose that we have three different medium pizzas. One is cut in fourths, one is cut in sixths, and one is cut in eighths. Which pizza has bigger slices? How do you know? Draw a picture to show your thinking.

Draw a picture:

_____

_____

ANSWER KEYS

TASK #1

THE PLAN

Your very own pizza place? You can't believe it! Let's get started!

First, think of a name for your pizza place.

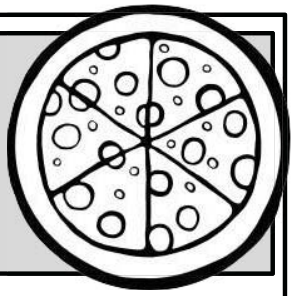
It'll be very important to advertise! Design a poster that you can put up around town.

Answers will vary.

TASK #2

THE MENU

You will be known for your amazing pizza, but it's important to offer other choices too. Let's create the menu!



MENU

PIZZA

Pizza by the Slice: $ 2.00
Small Pizza: $8.00
Medium Pizza: $10.00
Large Pizza: $ 13.00

OTHER MEAL OPTIONS

Spaghetti and Meatballs: $5.00
Lasagna: $4.00
Pasta Alfredo: $4.00
Side Salad: $ 2.00
Basket of Garlic Toast: $ 5.00

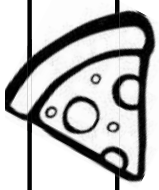
BEVERAGES

Lemonade: $1.50
Iced Tea: $1.50
Juice: $1.00
Coffee: $1.00
Tea: $1.00

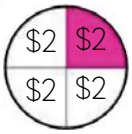
Use the clues below to complete the menu prices:

- Pizza by the slice is one-fourth of the price of a small pizza.

How can you figure this out? Show your work.

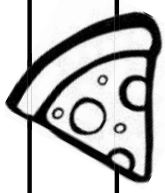


Answers will vary, but here is one example of how to figure it out:

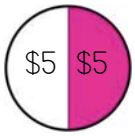


- A large pizza is $3.00 more than a medium pizza.
- A side salad is one-half of the price of lasagna.
- A basket of garlic toast is one-half of the price of a medium pizza.

How can you figure this out? Show your work.



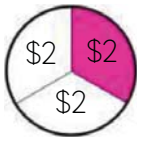
Answers will vary, but here is one example of how to figure it out:



THINK FAST!

You have $6.00 in your pocket. Your friend says she has one-third of that amount. How much money does your friend have?

Your friend has $2.00 in her pocket.

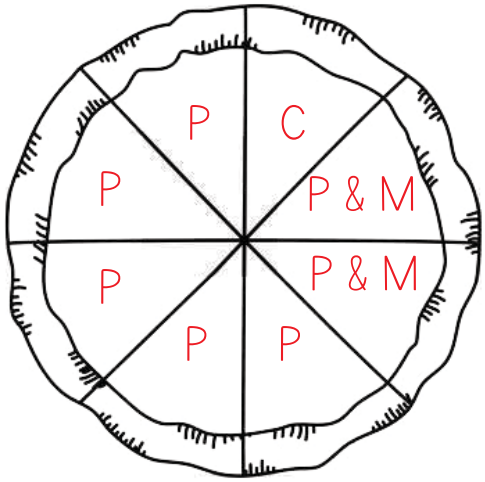


TASK #3

THE GRAND OPENING

It's opening day at the Pizza Place and it's going to be busy! Let's get cooking!

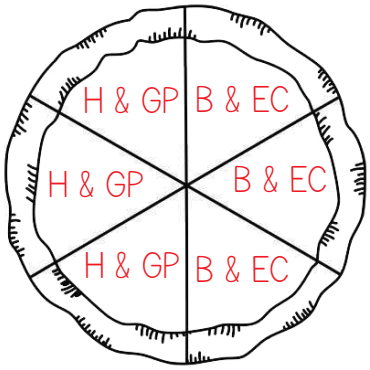
The fractions show the kinds of pizza that you'll make. Draw the ingredients.



$\frac{5}{8}$ pepperoni

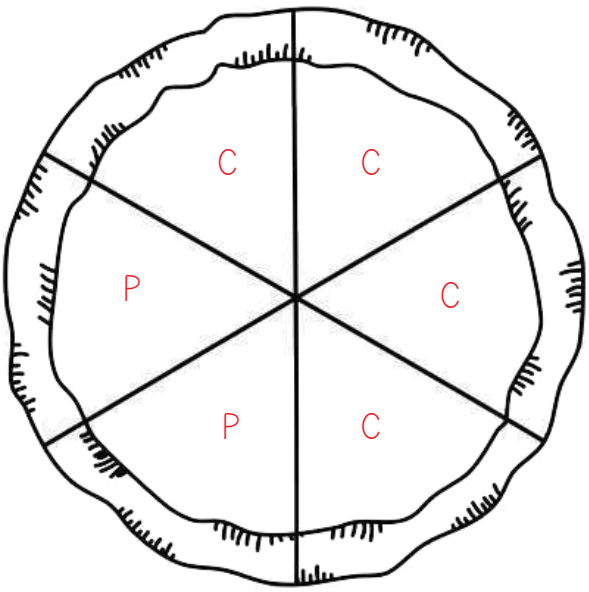
$\frac{1}{8}$ cheese

$\frac{2}{8}$ pepperoni and mushroom



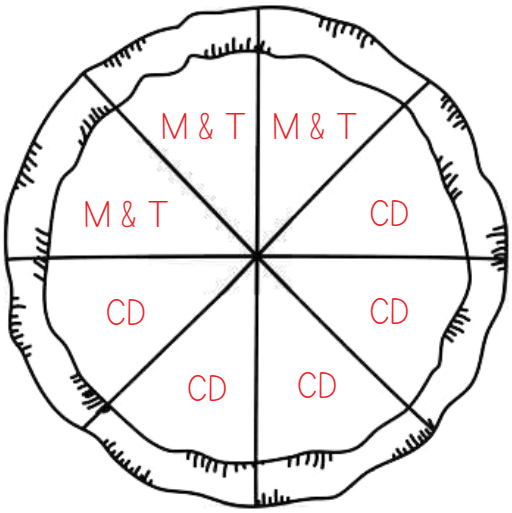
$\frac{3}{6}$ ham and green pepper

$\frac{3}{6}$ bacon and extra cheese



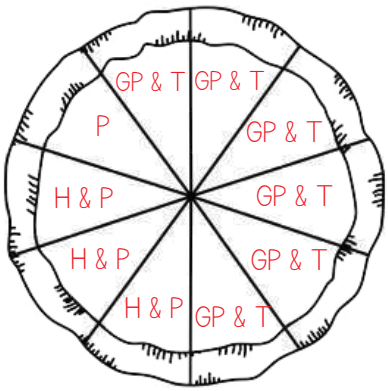
$\frac{2}{6}$ pepperoni

$\frac{4}{6}$ cheese



$\frac{3}{8}$ mushroom and tomato

$\frac{5}{8}$ cheeseburger delight



$\frac{3}{10}$ ham and pineapple

$\frac{6}{10}$ green pepper and tomato

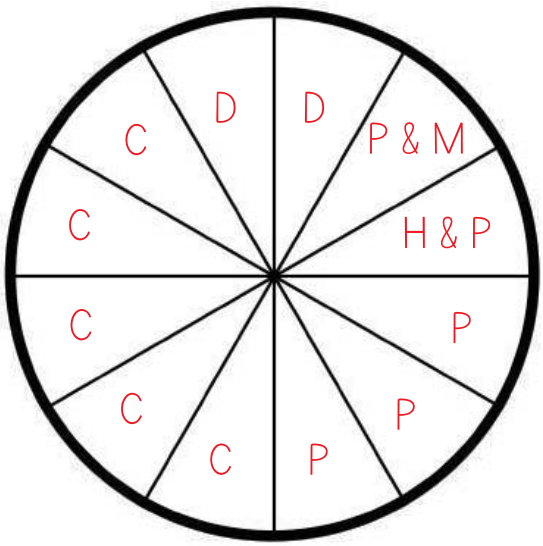
$\frac{1}{10}$ pepperoni

At the Grand Opening, you survey people to find out what their favorite type of pizza is. This will help your business! Here are the results:

FAVORITE TYPE OF PIZZA

CHEESE	PEPPERONI	HAM AND PINEAPPLE	PEPPERONI AND MUSHROOM	DELUXE
■				
■				
■	■			
■	■			■
■	■	■	■	■

Each space on the graph represents one-twelfth of the people. Transfer the data.



Suppose that each space on the graph represents 10 people. Answer the questions:

1. How many people prefer each type of pizza:

cheese 50 pepperoni 30 ham and pineapple 10

pepperoni and mushroom 10 deluxe 20

2. What fraction of people prefer each type of pizza?

cheese $\frac{5}{12}$ pepperoni $\frac{3}{12}$ ham and pineapple $\frac{1}{12}$

pepperoni and mushroom $\frac{1}{12}$ deluxe $\frac{2}{12}$

3. Altogether, what fraction of people prefer cheese and pepperoni pizza? $\frac{8}{12}$

4. Altogether, what fraction of people prefer ham and pineapple and deluxe? $\frac{3}{12}$

Now represent this fraction another way:

Answers will vary.

5. Altogether, what fraction of people prefer cheese, pepperoni, and deluxe pizza? $\frac{10}{12}$

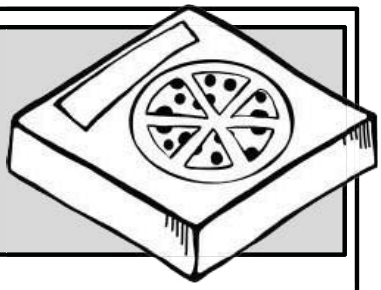
Now represent this fraction another way:

Answers will vary.

TASK #4

PIZZA DELIVERY

Let's take a look at some of the delivery orders from today.



PIZZA DELIVER ORDER #1

Type of Pizza	How many?	Cost per Pizza	Total Cost
Cheese	3	$8.00	$24.00
Pepperoni	2	$8.00	$16.00
Bacon and Mushroom	3	$8.00	$24.00
		Delivery Charge	$5.00
		Total Cost	$69.00

Answer the Questions:

1. How many pizzas were ordered altogether? 8
2. What fraction of the pizzas are pepperoni?

NUMBER FORM: $\frac{2}{8}$

WORD FORM: two-eighths

3. What fraction of the pizzas are bacon and mushroom?

NUMBER FORM: $\frac{3}{8}$

WORD FORM: three-eighths

PIZZA DELIVER ORDER #2

Type of Pizza	How many?	Cost per Pizza	Total Cost
Ham and Pineapple	1	$8.00	$8.00
Cheese	1	$8.00	$8.00
Pepperoni and Bacon	2	$8.00	$16.00
		Delivery Charge	$5.00
		Total Cost	$37.00

Answer the Questions:

1. How many pizzas were ordered altogether? 4
2. What fraction of the pizzas are ham and pineapple?

NUMBER FORM: $\frac{1}{4}$

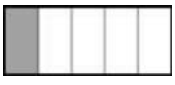
WORD FORM: one-fourth

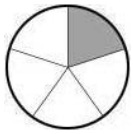
3. What fraction of the pepperoni and bacon?

NUMBER FORM: $\frac{2}{4}$

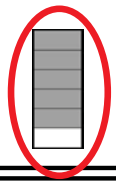
WORD FORM: two-fourths

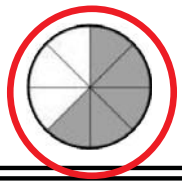
THINK FAST! Circle the fractions that have a NUMERATOR of 5.





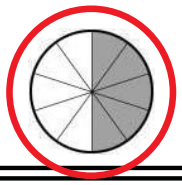
$\frac{4}{5}$





$\frac{5}{7}$

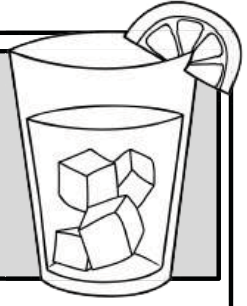
$\frac{2}{5}$



TASK #5

DRINK ORDERS

The first job after greeting your customers is to take drink orders.



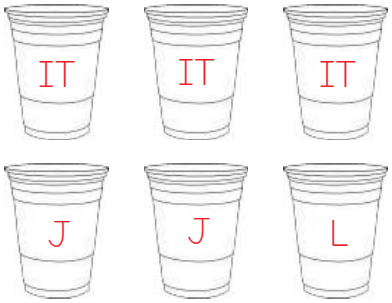
First, let's choose a color to represent each type of drink. Shade the crayons to show the colors that you will use.

Lemonade Iced Tea Juice Coffee Tea

Shade the drinks and represent each type of drink as a fraction of the total.

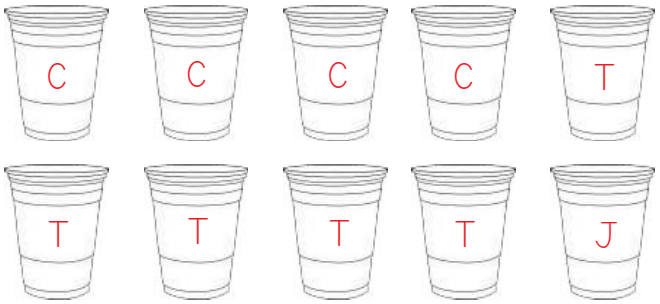
ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Iced Tea	3	$\frac{3}{6}$
Juice	2	$\frac{2}{6}$
Lemonade	1	$\frac{1}{6}$

Shade the cups:



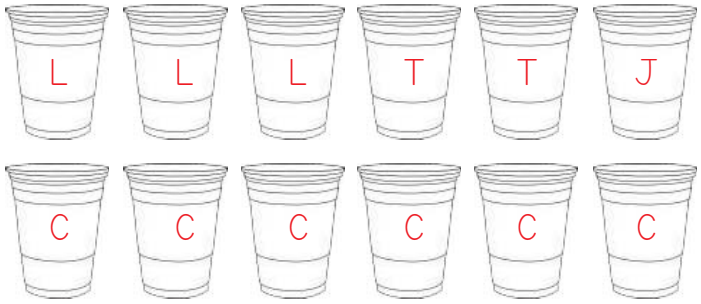
ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Coffee	4	$\frac{4}{10}$
Tea	5	$\frac{5}{10}$
Juice	1	$\frac{1}{10}$

Shade the cups:



ORDER FORM		
Type of Drink	Quantity	Fraction of the Total Drinks
Lemonade	3	$\frac{3}{12}$
Tea	2	$\frac{2}{12}$
Juice	1	$\frac{1}{12}$
Coffee	6	$\frac{6}{12}$

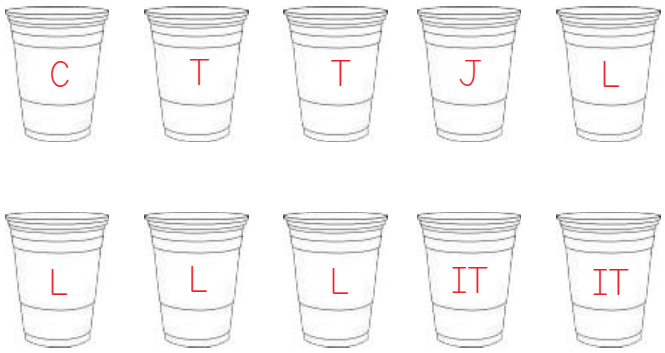
Shade the cups:



Fill in the missing spaces on the chart and then shade the cups.

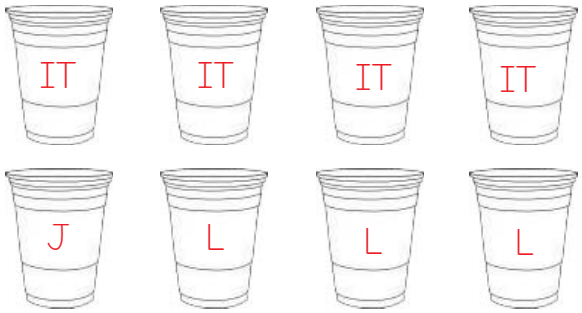
ORDER FORM		
Type of Drink	Fraction of the Total Drinks	Fraction in Word Form
Coffee	$\frac{1}{10}$	one-tenth
Tea	$\frac{2}{10}$	two-tenths
Juice	$\frac{1}{10}$	one-tenth
Lemonade	$\frac{4}{10}$	four-tenths
Iced Tea	$\frac{2}{10}$	two-tenths

Shade the cups:



ORDER FORM		
Type of Drink	Fraction of the Total Drinks	Fraction in Word Form
Iced Tea	$\frac{4}{8}$	four-eighths
Juice	$\frac{1}{8}$	one-eighth
Lemonade	$\frac{3}{8}$	three-eighths

Shade the cups:



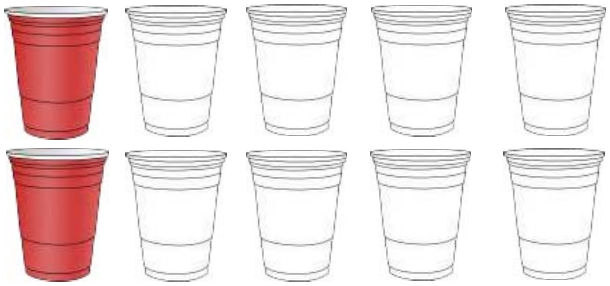
Let's work with **equivalent fractions.**

This picture shows $\frac{4}{10}$. Does it also represent $\frac{2}{5}$? Explain how you know.

Yes this does represent $\frac{2}{5}$. Four-tenths and two-fifths are equivalent fractions because they have the same value.

Represent the fraction three-fifths.

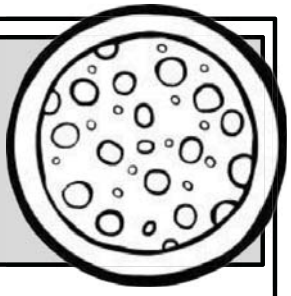
Represent the fraction $\frac{1}{5}$.



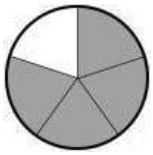
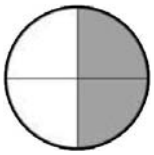
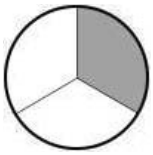
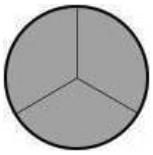
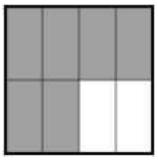
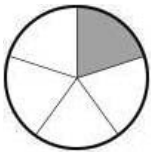
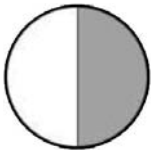
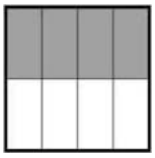
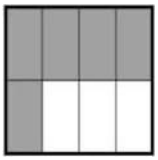
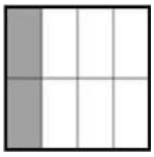
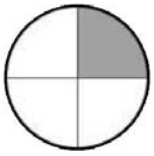
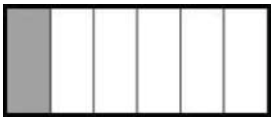
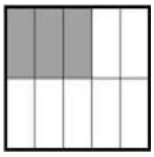
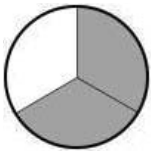
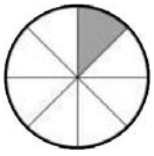
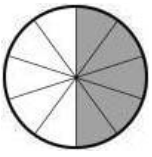
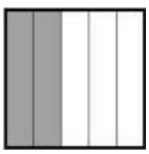
TASK #6

A NEW SPECIALTY

You've introduced two new types of specialty pizza to your restaurant! Let's find out what they are!



First of all, write the fraction that is represented for each letter.

A:  $\frac{4}{5}$	J:  $\frac{2}{4}$	S:  $\frac{1}{3}$
B:  $\frac{3}{3}$	K:  $\frac{3}{5}$	T:  $\frac{3}{6}$
C:  $\frac{7}{10}$	L:  $\frac{6}{8}$	U:  $\frac{1}{5}$
D:  $\frac{2}{6}$	M:  $\frac{1}{2}$	V:  $\frac{4}{8}$
E:  $\frac{5}{8}$	N:  $\frac{2}{8}$	W:  $\frac{3}{4}$
F:  $\frac{1}{4}$	O:  $\frac{1}{6}$	X:  $\frac{3}{10}$
G:  $\frac{9}{10}$	P:  $\frac{4}{4}$	Y:  $\frac{2}{3}$
H:  $\frac{1}{8}$	Q:  $\frac{5}{10}$	Z:  $\frac{4}{6}$
I:  $\frac{2}{5}$	R:  $\frac{5}{6}$	

Now let's figure out the two new kinds of specialty pizza!

The first kind of specialty pizza is:

S $\frac{1}{3}$ T $\frac{3}{6}$ E $\frac{5}{8}$ A $\frac{4}{5}$ K $\frac{3}{5}$

P $\frac{4}{4}$ I $\frac{2}{5}$ Z $\frac{4}{6}$ Z $\frac{4}{6}$ A $\frac{4}{5}$

W $\frac{3}{4}$ I $\frac{2}{5}$ T $\frac{3}{6}$ H $\frac{1}{8}$

A $\frac{4}{5}$

S $\frac{1}{3}$ I $\frac{2}{5}$ D $\frac{2}{6}$ E $\frac{5}{8}$

O $\frac{1}{6}$ F $\frac{1}{4}$

B $\frac{3}{3}$ B $\frac{3}{3}$ Q $\frac{5}{10}$

S $\frac{1}{3}$ A $\frac{4}{5}$ U $\frac{1}{5}$ C $\frac{7}{10}$ E $\frac{5}{8}$

The second kind of specialty pizza is:

B $\frac{3}{3}$ A $\frac{4}{5}$ K $\frac{3}{5}$ E $\frac{5}{8}$ D $\frac{2}{6}$

P $\frac{4}{4}$ O $\frac{1}{6}$ T $\frac{3}{6}$ A $\frac{4}{5}$ T $\frac{3}{6}$ O $\frac{1}{6}$

P $\frac{4}{4}$ I $\frac{2}{5}$ Z $\frac{4}{6}$ Z $\frac{4}{6}$ A $\frac{4}{5}$

W $\frac{3}{4}$ I $\frac{2}{5}$ T $\frac{3}{6}$ H $\frac{1}{8}$

A $\frac{4}{5}$

S $\frac{1}{3}$ T $\frac{3}{6}$ U $\frac{1}{5}$ F $\frac{1}{4}$ F $\frac{1}{4}$ E $\frac{5}{8}$ D $\frac{2}{6}$

C $\frac{7}{10}$ R $\frac{5}{6}$ U $\frac{1}{5}$ S $\frac{1}{3}$ T $\frac{3}{6}$

Which of the specialty pizzas would you prefer? Draw a picture of what you think it would look like.

ANSWERS WILL VARY.

THINK FAST! Circle the fractions that are greater than one-half.

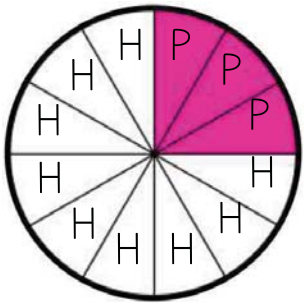
$\frac{1}{3}$ $\frac{4}{5}$ $\frac{4}{4}$ $\frac{1}{6}$ $\frac{3}{4}$ $\frac{7}{10}$ $\frac{1}{4}$ $\frac{4}{5}$ $\frac{5}{6}$

TASK #7

PIZZA PROBLEMS!

In any business or job, you will run into problems that need to be solved! Let's take a look at a few of the problems that you encounter this week.

A large pizza has 12 slices. Your customer wants $\frac{1}{4}$ with pepperoni and the rest with ham. How many pieces have pepperoni? How many pieces have ham?

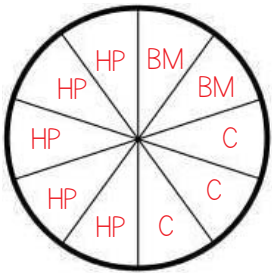


3 of the slices have pepperoni. 9 pieces have ham.

You usually put 3 cups of cheese on a large pizza. A customer asks for half the amount of cheese. How much cheese will you put on the pizza?

You will put $1\frac{1}{2}$ cups of cheese on the pizza.

You cut a pizza into 10 slices. Five-tenths of the pieces are ham and pineapple. Two-tenths of the pieces are bacon and mushroom. The rest are cheese. What fraction of the slices are cheese?



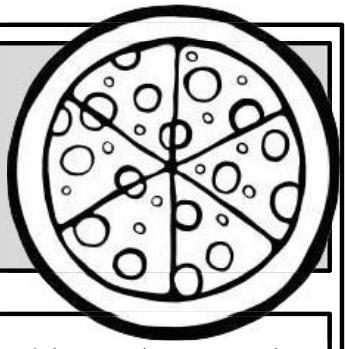
$\frac{3}{10}$ of the pizza is cheese.

THINK FAST! Pizza is your favorite food and you are STARVING! Would you rather have $\frac{1}{4}$ of a pizza or $\frac{1}{6}$ of a pizza? Why?

I would rather have $\frac{1}{4}$ of a pizza because $\frac{1}{4}$ is bigger than $\frac{1}{6}$.

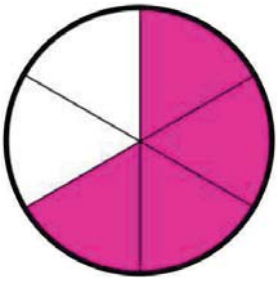
TASK #8

DOUBLE THE INGREDIENTS



A large pizza uses twice the amount of each ingredient as a small pizza. Double each amount on the chart to show the amount for a large pizza.

Ingredient	Amount for a Small Pizza	Double the fraction.	Amount for a Large Pizza
Sauce	$\frac{1}{2}$ cup	$\frac{1}{2} + \frac{1}{2} = 1$ cup	1 cup
Cheese	$1\frac{1}{2}$ cups	$1\frac{1}{2} + 1\frac{1}{2} = 3$ cups	3 cups
Pepperoni	$\frac{1}{3}$ cup	$\frac{1}{3} + \frac{1}{3} = \frac{2}{3}$ cup	$\frac{2}{3}$ cup
Ham	$\frac{1}{2}$ cup	$\frac{1}{2} + \frac{1}{2} = 1$ cup	1 cup
Mushrooms	$\frac{2}{5}$ cup	$\frac{2}{5} + \frac{2}{5} = \frac{4}{5}$ cup	$\frac{4}{5}$ cup
Pineapple	$\frac{1}{4}$ cup	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ cup	$\frac{2}{4}$ cup
Green peppers	$\frac{1}{4}$ cup	$\frac{1}{4} + \frac{1}{4} = \frac{2}{4}$ cup	$\frac{2}{4}$ cup
Tomatoes	$\frac{2}{6}$ cup	$\frac{2}{6} + \frac{2}{6} = \frac{4}{6}$ cup	$\frac{4}{6}$ cup

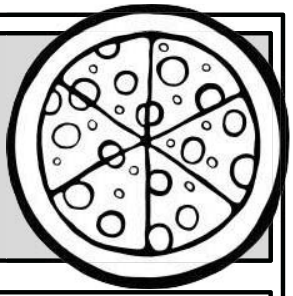


Oh no! You ran out of cheese! You need 1 cup and you only have $\frac{4}{6}$ of a cup. How much more cheese do you need?

You need $\frac{2}{6}$ cups more cheese.

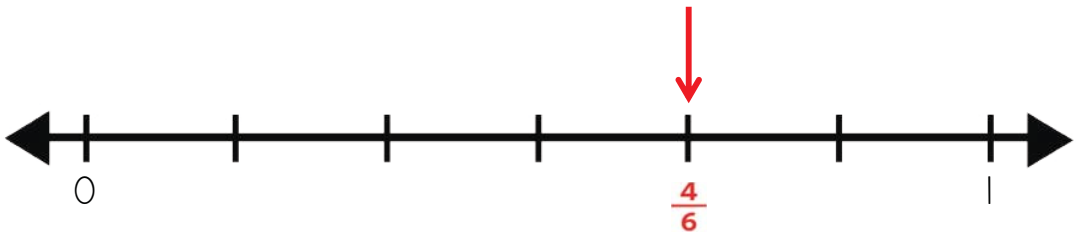
TASK #9

PIZZAS ON A NUMBER LINE



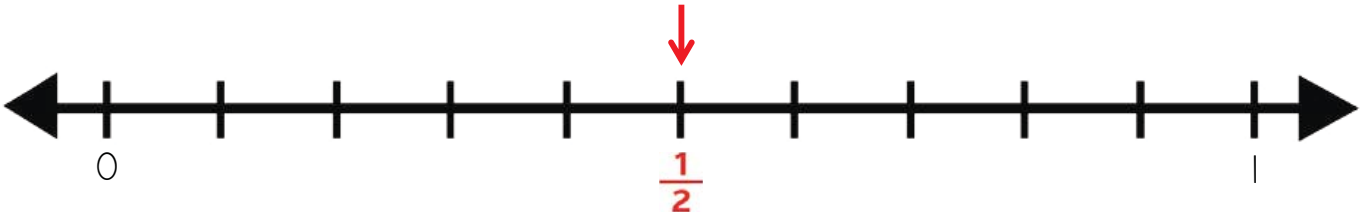
The Smith family ordered two pizzas. They ate $\frac{3}{6}$ of one pizza and $\frac{1}{6}$ of the second one. How much pizza did they eat in all? Use a number line to show your work.

In all they ate $\frac{4}{6}$ of a pizza.



A medium pizza has 10 pieces. One-half of the pizza is ham and pineapple. How many pieces are NOT ham and pineapple? Show your work on the number line.

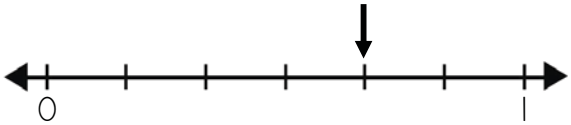
5 pieces are not ham and pineapple.

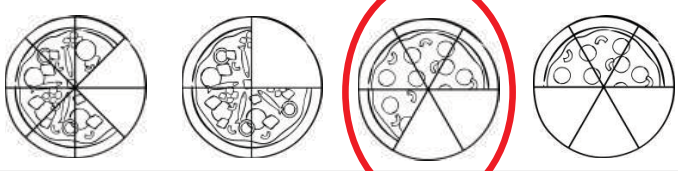


Maria eats one-fourth of a small pizza and Marshall eats one-sixth of a small pizza. Who ate more pizza? Prove it with the number lines.

Maria ate more pizza.

Which of the pizzas does this number line represent? Circle it.





TASK #10

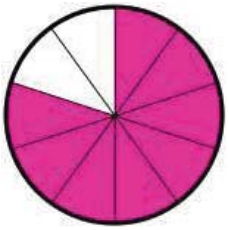
A PIZZA PARTY!

Today you're hosting a birthday party at your restaurant. Let's get planning!

Here are the facts:

There are 10 people at the pizza party. 8 of them are kids and two are adults. Represent this as a fraction:

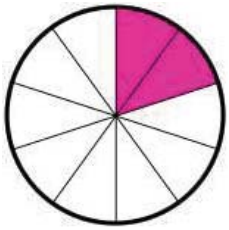
What fraction of the people are kids?



Fraction as a number: $\frac{8}{10}$

Fraction in words: eight-tenths

What fraction of the people are adults?



Fraction as a number: $\frac{2}{10}$

Fraction in words: two-tenths

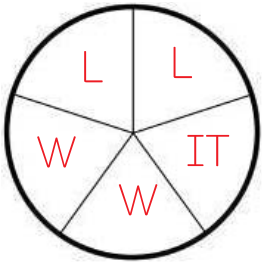
Each person will eat 3 pieces of pizza. How many pieces will we need altogether?

10x3=30 We will need 30 pieces altogether.

We will make large pizzas for this group. A large pizza has 12 pieces. How many pizzas should we make?

We should make 3 pizzas.

You'll be putting out 2 pitchers of lemonade, 1 pitcher of iced tea, and 2 pitchers of water for the party. Represent each type of drink as a fraction of the total pitchers.



Pitchers of Lemonade (as a fraction): $\frac{2}{5}$

Pitchers of Iced Tea (as a fraction): $\frac{1}{5}$

Pitchers of Water (as a fraction): $\frac{2}{5}$

THINK FAST! Write three fractions that are greater (more) than two-fifths.

Answers will vary, but some options include: $\frac{3}{5}$ $\frac{4}{5}$ $\frac{5}{5}$

Now let's make the pizzas!

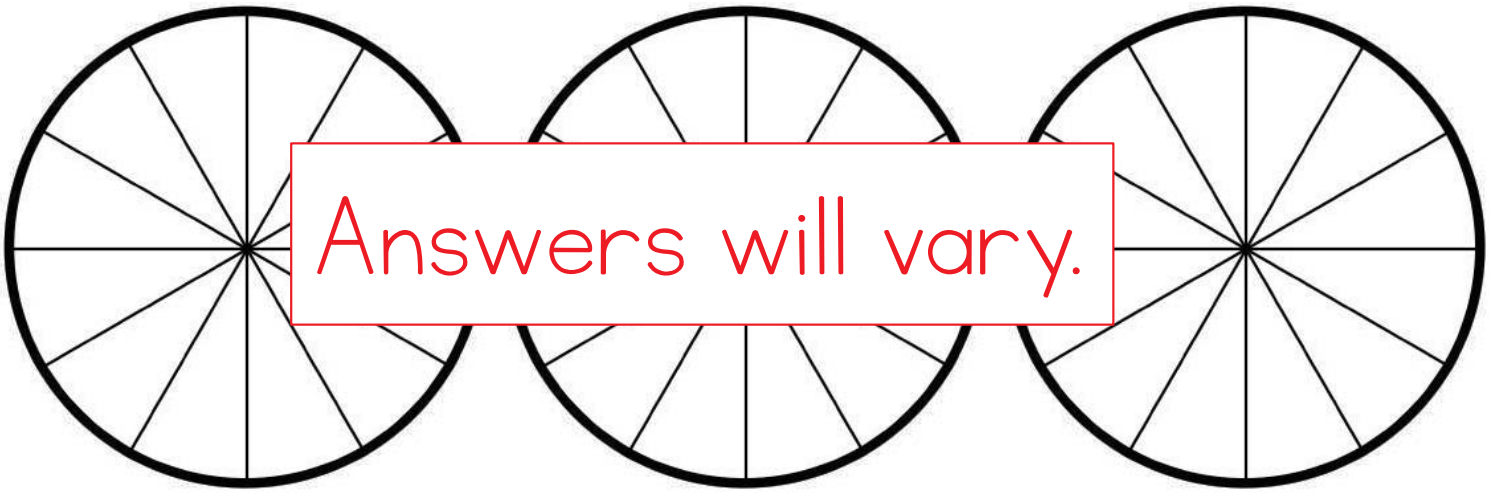
Here are the three pizzas that we'll make. Decide how much of each kind of pizza you should make. Then choose a color to represent each kind of pizza and shade the diagrams to match.

$\frac{}{12}$ pepperoni 

$\frac{}{12}$ ham and pineapple 

$\frac{}{12}$ cheese 

$\frac{}{12}$ deluxe 



Answers will vary.

Write each of the fractions from above in words:

Type of Pizza	Fraction in Number Form	Fraction in Words
Pepperoni		
Cheese		
Ham and Pineapple		
Deluxe		

Answers will vary.

What's left?

The shaded parts represent the pizza that is left over after the party. Write a fraction to represent the amount of pizza that is left.

$\frac{2}{12} + \frac{1}{12} + \frac{3}{12} = \frac{6}{12}$

Answer Key Corrections for Pizza Place

Correction #1: Task #11

Table Number	Amount of Pizza Eaten	Amount of Pizza Left
Table #1	$\frac{3}{6}$	$\frac{3}{6}$
Table #2	$\frac{4}{12}$	$\frac{8}{12}$
Table #3	$\frac{4}{6}$	$\frac{2}{6}$
Table #4	$\frac{8}{12}$	$\frac{4}{12}$

Circle three of the fractions in the chart. Write each one in word form.

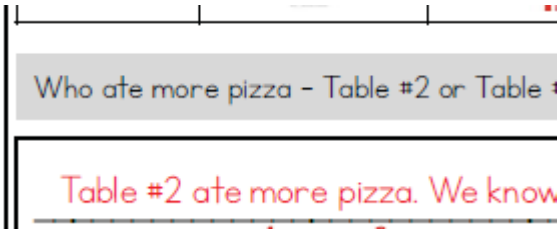
Answers will vary.

Which table ate the most pizza?

Table #4 ate the most pizza.

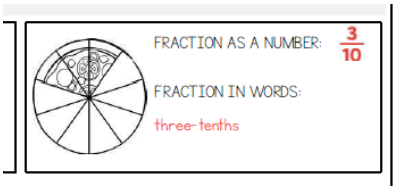
Table 3 AND 4 ate the same amount, so this box should say Table 3 and 4:

Correction #2: Task 11: This should say Table 3 ate more pizza than Table 2.

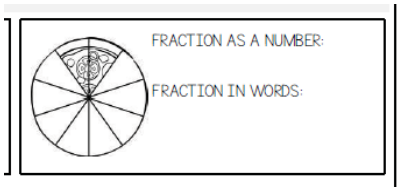


Correction #3: Task #12.

The answer key is correct…



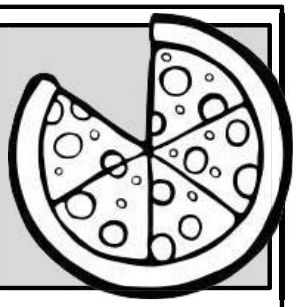
But the task for the student does not match:



TASK #11

WHO ATE MORE?

You'll serve 9 tables in all today . Let's take a look at what they are eating!



First you serve 5 tables for lunch. Fill in the chart to show how much of their pizza is left.

Table Number	Amount of Pizza Eaten	Amount of Pizza Left
Table #1	$\frac{8}{10}$	$\frac{2}{10}$
Table #2	$\frac{3}{10}$	$\frac{7}{10}$
Table #3	$\frac{6}{10}$	$\frac{4}{10}$
Table #4	$\frac{7}{10}$	$\frac{3}{10}$
Table #5	$\frac{9}{10}$	$\frac{1}{10}$

Use the chart to answer the questions:

Which table ate the most pizza?

Table #5 ate the most pizza.

Which table ate the least pizza?

Table #2 ate the least pizza.

Order the fractions of pizza eaten from least (smallest) to greatest (largest).

$\frac{3}{10}$ $\frac{6}{10}$ $\frac{7}{10}$ $\frac{8}{10}$ $\frac{9}{10}$

How much more pizza did Table #5 eat than Table #2? Write a fraction.

Table #5 ate $\frac{6}{10}$ more pizza than Table #2.

Each picture below represents the amount of pizza left over from one of the tables. Write the table number beneath each pizza.

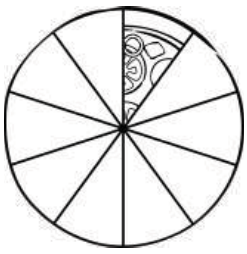


Table # 5

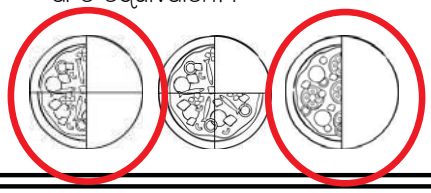
Table # 2

Table # 1

Table # 3

Table # 4

THINK FAST! Circle the two pizzas that show **equivalent (equal) fractions**. How do you know that they are equivalent?



They are equivalent because they take up the same amount of pizza, or have the same value.

Now you're serving 4 more tables! All of the tables order a large pizza, but 2 tables want their pizza cut into 6 pieces instead of 12. The chart below shows the amount that each table ate.

Table Number	Amount of Pizza Eaten	Amount of Pizza Left
Table #1	$\frac{3}{6}$	$\frac{3}{6}$
Table #2	$\frac{4}{12}$	$\frac{8}{12}$
Table #3	$\frac{4}{6}$	$\frac{2}{6}$
Table #4	$\frac{8}{12}$	$\frac{4}{12}$

Circle three of the fractions in the chart. Write each one in word form.

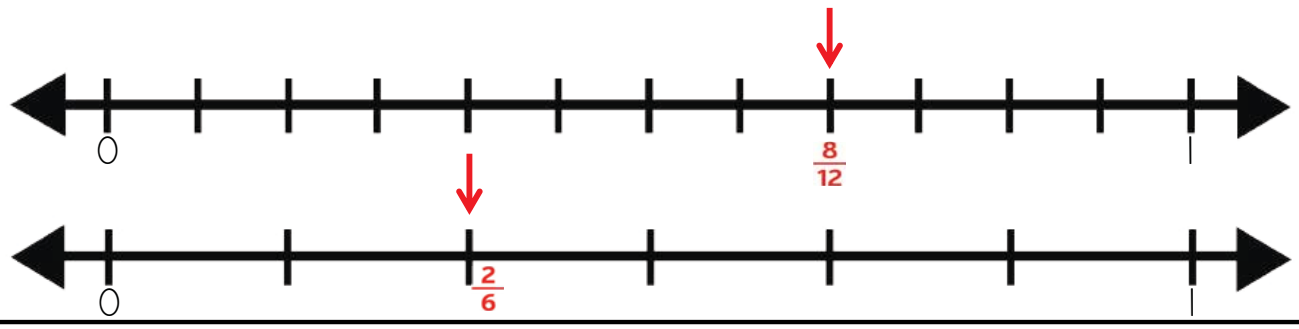
Answers will vary.

Which table ate the most pizza?

Table #4 ate the most pizza.

Who ate more pizza – Table #2 or Table #3? How do you know? Use the number lines to prove it.

Table #2 ate more pizza. We know this because the amount that Table #3 ate is equivalent to $\frac{4}{12}$ and $\frac{8}{12}$ is more than $\frac{4}{12}$.



Which two tables ate the same amount of pizza? Use the diagrams to help you show your work

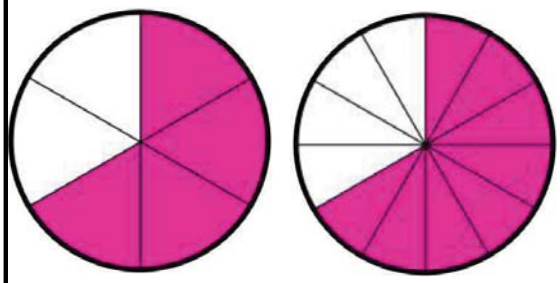


Table #3 and Table #4 ate the same amount of pizza.

TASK #12

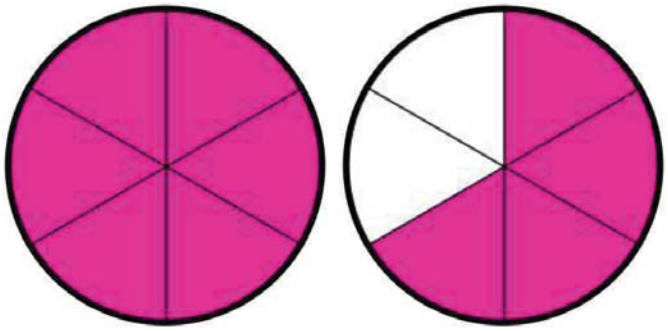
A PIECE AT A TIME

You've set up a pizza stand on the street outside your restaurant for the street festival. How much pizza will you sell?

So far 5 people have bought pieces of a small pepperoni pizza. Here are the fractions of a pizza that each person bought.

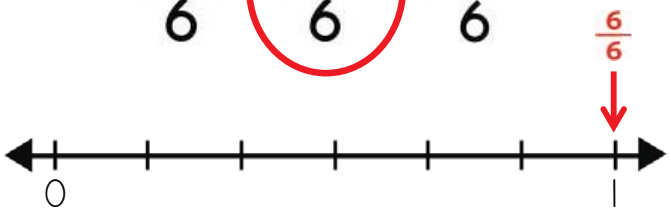
$\frac{2}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{1}{6}$ $\frac{2}{6}$ $\frac{3}{6}$

How much pizza has been bought so far? Show the total on the diagrams.



Circle the fraction below that represents one full pizza. Then represent a full pizza on the number line.

$\frac{3}{6}$ $\frac{6}{6}$ $\frac{5}{6}$



Your pizza stand continues to be busy all day! At the end of the day, here is what you have left. Write each amount as a fraction in numbers and in words.

FRACTION AS A NUMBER: $\frac{2}{10}$

FRACTION IN WORDS: two-tenths

FRACTION AS A NUMBER: $\frac{3}{10}$

FRACTION IN WORDS: three-tenths

FRACTION AS A NUMBER: $\frac{5}{10}$

FRACTION IN WORDS: five-tenths

FRACTION AS A NUMBER: $\frac{10}{10}$

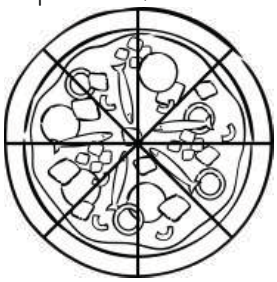
FRACTION IN WORDS: ten-tenths

TASK #13

CUSTOMER SERVICE COMES FIRST!

In any business it's important to keep our customers happy! Let's solve some customer problems!

A customer comes in today and says, **"I just went to the pizza place across the street and their pizza is way cheaper than yours! It's $4 for $\frac{1}{8}$ of a pizza at your restaurant and only $3 for $\frac{1}{8}$ of a pizza at the place across the street!"** You decide to investigate. You find that your pizza IS more expensive, but there's more to the story! Take a look at the pictures.



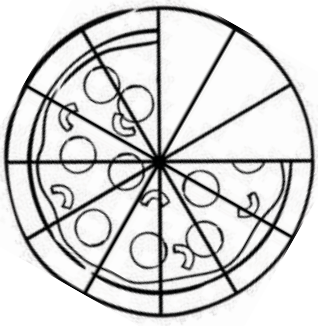
YOUR PIZZA

YOUR COMPETITOR'S PIZZA

Is $\frac{1}{8}$ of a pizza the same at both restaurants? What will you say to this customer?

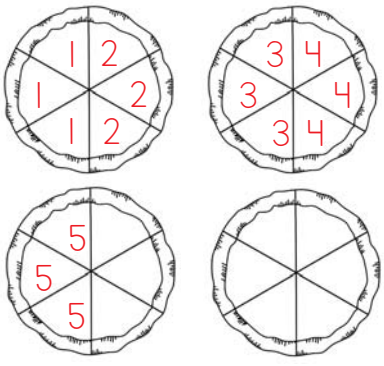
You can't compare the pizzas because they are not the same size. One-eighth is only the same if both wholes are the same size.

One of your customers just came in to grab his regular Sunday night order - a large ham and bacon pizza. But on the way out he drops the box! "Oh no," he exclaims. "I just dropped one-fourth of my pizza on the floor!" You don't waste any time replacing the pieces that fell on the floor. After all, he comes in every Sunday and you want to treat him well! How many new pieces of pizza do you give him?



You give him 3 new pieces of pizza.

The phone rings. It's another order! "Hello, I'd like enough small pizzas to feed 5 people please. Each person will be eating $\frac{3}{6}$ of a small pizza. I'd also like to have about two extra pieces." What will you recommend for this customer?



You should recommend that this customer orders 3 small pizzas. This will be enough for each person to have 3 pieces each, plus there will be 3 extra pieces.

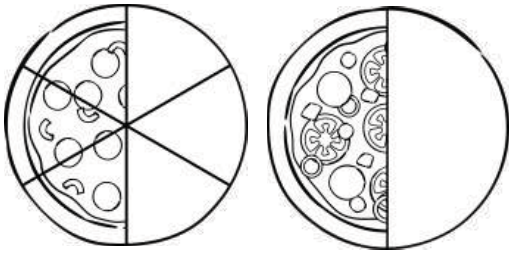
You have a customer on the phone ordering a pizza. She says, "Hello! I'd like a medium pizza please! I need $\frac{3}{6}$ cheese and $\frac{3}{6}$ ham."

"Ok," you reply, "so that's $\frac{1}{2}$ cheese and $\frac{1}{2}$ ham?"

"No," the customer responds. "I said $\frac{3}{6}$ cheese and $\frac{3}{6}$ ham."

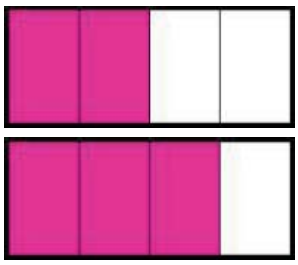
"Let me explain," you begin.

Explain to the customer why you are right about her order. Use the diagrams to help you explain.



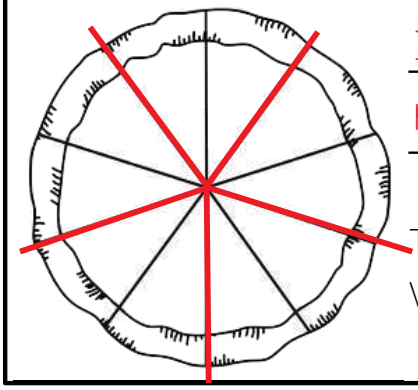
$\frac{1}{2}$ and $\frac{3}{6}$ are equivalent fractions because they take up the same amount of space on the whole pizza.

As you walk through the restaurant, a man a table gets your attention. "Excuse me," he begins, "I asked for $\frac{1}{2}$ a cup of cheese on this pizza, but it still tastes too cheesy!" You ask the cook and she says, "Oh dear! I accidentally put on $\frac{3}{4}$ of a cup of cheese!" How much more cheese was added than what should have been added?



There was $\frac{1}{4}$ cup too much cheese added.

A customer comes in to a large pizza. "Hello," she says, "I'd like a medium cheese pizza. But I don't want it cut in 10 pieces like you usually do. I'd like each piece to be twice the size that it usually is. If you do that, how many pieces will I get?" You decide to show her with a pen and paper. Use the diagram and write down what you will say to her:



If each piece is twice the size that it usually is, there will be 5 pieces.

This conversation has made you realize a set of equivalent fractions! What are they?

$\frac{1}{5}$ $\frac{2}{10}$

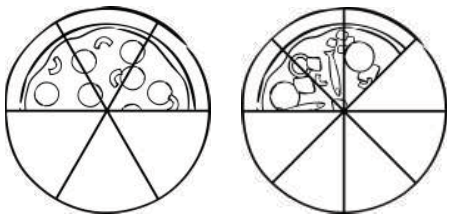
TASK #14

MORE OR LESS?

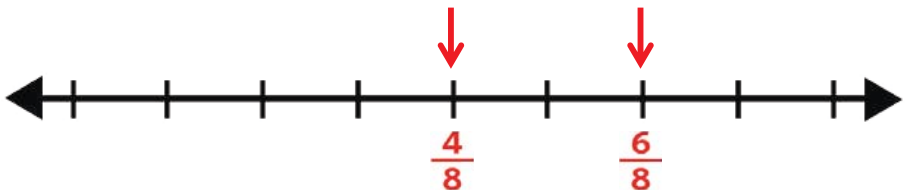
When you work at a pizza place it's important to understand how big each slice is depending on how the pizza is cut.

Which is more? Circle the fraction that is more and prove it using the diagram.

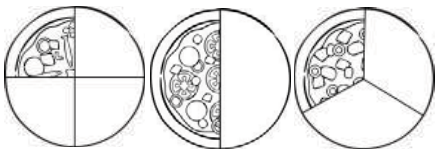
$\frac{3}{6}$ $\frac{3}{8}$



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



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



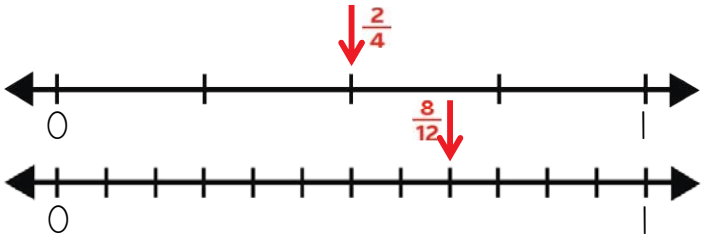
Complete this sentence:

When the numerator is the same, the bigger fraction is...

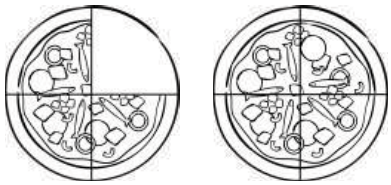
the one with the smallest denominator.

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

$\frac{2}{4}$ $\frac{8}{12}$



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



Complete this sentence:

When the denominator is the same, the bigger fraction is...

the one with the biggest numerator.

THINK FAST!

Suppose that we have three different medium pizzas. One is cut in fourths, one is cut in sixths, and one is cut in eighths. Which pizza has bigger slices? How do you know? Draw a picture to show your thinking.

Draw a picture:

The one that is cut in fourths has the bigger slices.