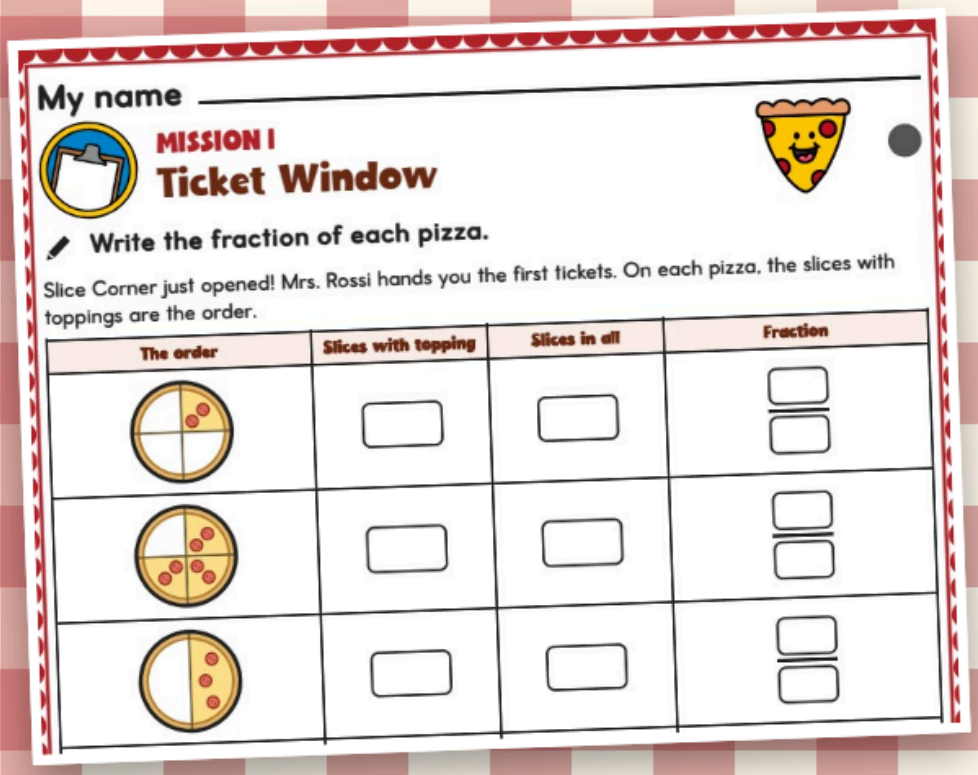
PIZZA SHOP

FRACTIONS MATH PROJECT

6 MISSIONS

3-5 GRADES

3 LEVELS



My name _____

MISSION I

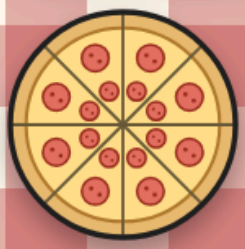
Ticket Window

Write the fraction of each pizza.

Slice Corner just opened! Mrs. Rossi hands you the first tickets. On each pizza, the slices with toppings are the order.

The order	Slices with topping	Slices in all	Fraction





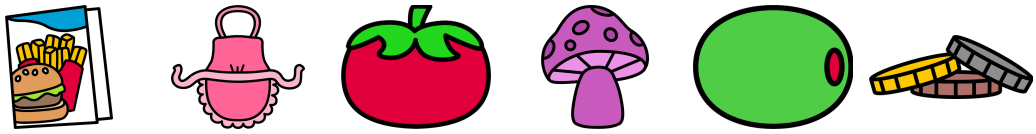








Start Here: Run the Pizza Shop



Each child owns **Slice Corner** for one busy day. One story runs through every page: the owner takes tickets, cuts pizzas, checks the warming tray, handles a party order, survives the lunch rush, counts the cooler and files a Shop Report. A small pizza has 4 slices, a large pizza has 8 slices and every slice costs 2 dollars.

What is inside

Part	Pages	What it is
Open the shop	4-6	The owner letter and contract, a badge and stamps to cut, and a mission tracker.
Menu, prices, steps	7-9	The menu (fractions of a pizza), the price board and a steps card to keep at the desk.
Circle missions 1-6	10-15	Small pizzas cut in 4: halves and fourths, a picture in every row.
Square missions 1-6	16-21	Large pizzas cut in 8: eighths, fourths and halves, pictures in most rows.
Triangle missions 1-6	22-27	Large pizzas cut in 8: simplest form, missing bottom numbers, mixed numbers, few pictures.
Bonus orders	28-32	Unlike bottoms (add, subtract), mixed numbers, the big party order and six shop problems.
Own tickets, Shop Report	33-36	Write your own tickets, file the Shop Report (numbers from every mission), write about the shop, self-check.
Examples	37-38	Mission 4 and the Shop Report, completed by Ari, an invented student.
Answer keys	39-46	One page per mission with all three levels, then the menu, prices, bonus orders and report.
Family letter, certificate	47-48	A note home and an owner certificate to fill in.

Three levels, marked with a shape

● circle, ■ square, ▲ triangle. The shape is the only mark of the level, so three children at one table can work three levels of the same story. Every mission has four table rows and one rush-hour problem at each level: 72 table rows and 18 rush-hour problems in all. The answer to each rush-hour problem is a number of slices. The Shop Report adds the six numbers, so the day ends in one total.

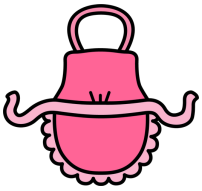
The math

Fractions use halves, fourths and eighths only, so every common bottom number is 2, 4 or 8. Skills in order: name a fraction of a pizza, find the same amount cut a different way, subtract like bottoms, add like bottoms, compare, and read whole pizzas plus parts as a mixed number. The bonus pages add and subtract with unlike bottoms.

To print: single-sided. Children need a pencil, scissors for the badge page and glue for the tracker.

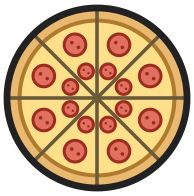
PREVIEW

My name _____



YOU ARE THE OWNER!

Slice Corner



Read the letter. Then read the shop facts.

Dear new owner,
Slice Corner is yours today! This fractions math project is your first day on the job. We bake pizza, we cut it fair and we sell it by the slice. People will order, call and line up. You can do it. Check every fraction twice.

Your friend, Mrs. Rossi (an invented shop owner)

Small pizza	4 slices
Large pizza	8 slices
One slice costs	2 dollars
Pizzas we bake in a day	12

Your six missions


1. Ticket Window


2. The Cutting Table


3. The Warming Tray


4. Party Order


5. Lunch Rush


6. Count the Cooler

My shape: ☐ ● ☐ ■ ☐ ▲ (your teacher picks it with you)

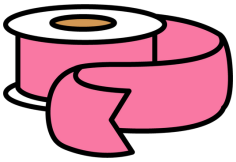
Owner's contract

I, _____, will run Slice Corner. I will cut every pizza fair, check my fractions and file my Shop Report.

Signed **Date**

PREVIEW

My name _____

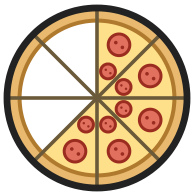


MY BADGE AND STAMPS

Cut on the dashed lines

Cut out the 8 pieces. Wear the badge. Glue a stamp on your tracker when a mission is done.

SLICE CORNER
OWNER



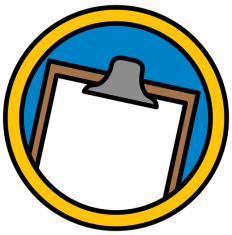
Name

_____

Class

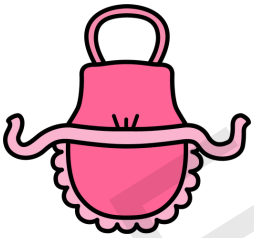
_____

MISSION 1
Ticket Window



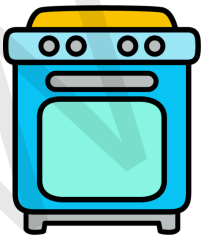
done!

MISSION 2
The Cutting Table



done!

MISSION 3
The Warming Tray



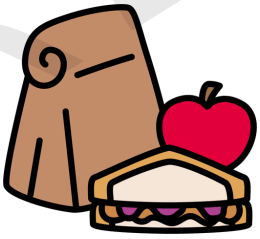
done!

MISSION 4
Party Order



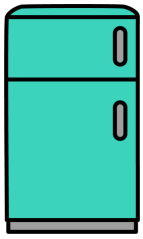
done!

MISSION 5
Lunch Rush



done!

MISSION 6
Count the Cooler



done!

STAMP
Report filed



Shop Report

PREVIEW

My name _____

Find the price of each order.



THE PRICE BOARD

2 dollars a slice

Every slice costs 2 dollars. A customer pays for the slices in the order. The slices with toppings are the order.

The order	Fraction	Slices	Dollars
	☐/8	☐	☐
	☐/8	☐	☐
	☐/8	☐	☐
	☐/4	☐	☐
	☐/4	☐	☐

A whole large pizza costs _____

Half of a large pizza costs _____

Three small pizzas have this many slices: _____

Show your work.

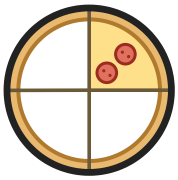
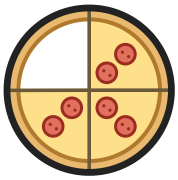
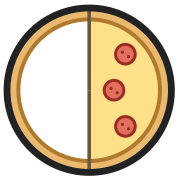
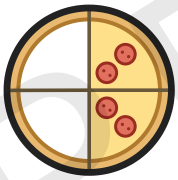
PREVIEW

My name _____

MISSION 1
Ticket Window

Write the fraction of each pizza.

Slice Corner just opened! Mrs. Rossi hands you the first tickets. On each pizza, the slices with toppings are the order.

The order	Slices with topping	Slices in all	Fraction
			
			
			
			

Rush hour. Mr. Ortiz orders $\frac{3}{4}$ of a small pizza. A small pizza has 4 slices. How many slices is that?

Show your work

Answer _____ **slices**

★ Copy this answer to your Shop Report (page 34).

PREVIEW

My name _____



MISSION 4

Party Order



Add the two orders.

A birthday party calls! Add the two orders to make one big order.

The two orders	Add	Total	Simplest form
	$\frac{1}{4} + \frac{2}{4} =$	$\frac{\square}{4}$	$\square$
	$\frac{1}{4} + \frac{1}{4} =$	$\frac{\square}{4}$	$\square$
	$\frac{2}{4} + \frac{2}{4} =$	$\frac{\square}{4}$	$\square$
	$\frac{2}{4} + \frac{1}{4} =$	$\frac{\square}{4}$	$\square$

Rush hour. Two friends order $\frac{1}{4}$ and $\frac{1}{4}$ of a small pizza. How many slices in all?

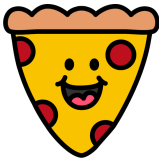
Show your work

Answer ☐ **slices** ★ Copy this answer to your Shop Report (page 34).

PREVIEW

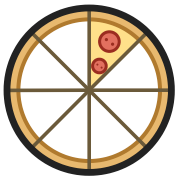
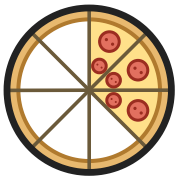
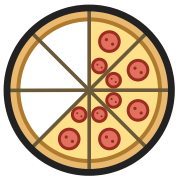
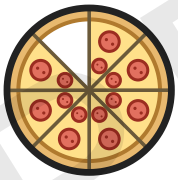
My name _____

MISSION 1
Ticket Window



Write the fraction of each pizza.

Slice Corner just opened! Mrs. Rossi hands you the first tickets. On each pizza, the slices with toppings are the order.

The order	Fraction with topping	Slices with no topping	Fraction with no topping
	☐/☐	☐	☐/☐
	☐/☐	☐	☐/☐
	☐/☐	☐	☐/☐
	☐/☐	☐	☐/☐

Rush hour. Mr. Ortiz orders $\frac{5}{8}$ of a large pizza. A large pizza has 8 slices. How many slices is that?

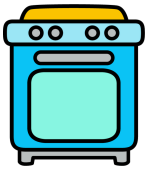
Show your work

Answer ☐ **slices**

★ Copy this answer to your Shop Report (page 34).

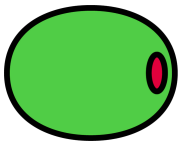
PREVIEW

My name _____



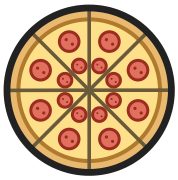
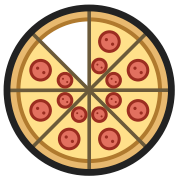
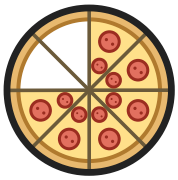
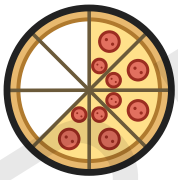
MISSION 3

The Warming Tray



Subtract. How much is left?

At the warming tray, some pizza is already gone. Find how much is left on each tray.

The tray	Subtract	Left	Simplest form
	$\frac{8}{8} - \frac{3}{8} =$	$\frac{\square}{8}$	$\square$
	$\frac{7}{8} - \frac{2}{8} =$	$\frac{\square}{8}$	$\square$
	$\frac{6}{8} - \frac{5}{8} =$	$\frac{\square}{8}$	$\square$
	$\frac{5}{8} - \frac{4}{8} =$	$\frac{\square}{8}$	$\square$

Rush hour. A tray has $\frac{7}{8}$ of a pizza. At the end of the day $\frac{3}{8}$ is left. How many slices did you sell?

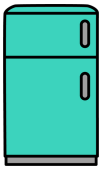
Show your work

Answer ☐ **slices**

★ Copy this answer to your Shop Report (page 34).

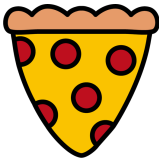
PREVIEW

My name _____



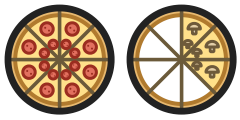
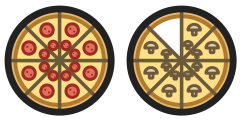
MISSION 6

Count the Cooler



Count the pizzas in the cooler.

Closing time. Count the pizza in the cooler. Whole pizzas and parts of a pizza make a mixed number.

Pizza in the cooler	Mixed number	Same as
	☐ ☐/☐	☐/8
	☐ ☐/☐	☐/8
	☐ ☐/☐	☐/8
	☐ ☐/☐	☐/8

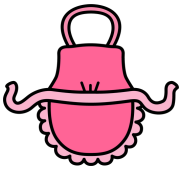
Rush hour. The cooler has 2 large pizzas and $\frac{3}{8}$ of another. How many slices is that?

Show your work

Answer ☐ **slices** ★ Copy this answer to your Shop Report (page 34).

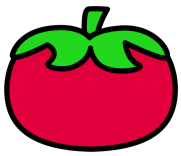
PREVIEW

My name _____



MISSION 2

The Cutting Table





Same amount, different cut.

The cook cuts pizzas different ways. A customer wants the same amount of pizza, so match the cuts.

Same amount (fill in the missing bottom number)
$\frac{1}{2} = \frac{4}{\square}$
$\frac{3}{4} = \frac{6}{\square}$
$\frac{2}{8} = \frac{1}{\square}$
$\frac{4}{8} = \frac{1}{\square}$

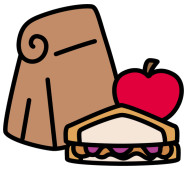
Rush hour. A pizza is cut in fourths and $\frac{3}{4}$ of it is ordered. Cut in eighths instead, how many slices is the same amount?

Show your work

Answer ☐ **slices** ★ Copy this answer to your Shop Report (page 34).

PREVIEW

My name _____



MISSION 5

Lunch Rush





Who ordered more? Pick a symbol.

It is the lunch rush! Two customers ordered. Which one ordered more pizza?

Order A	Same bottom number	Which is more?	Same bottom number	Order B
$\frac{7}{8}$	$\frac{\square}{8}$	$\square$	$\frac{\square}{8}$	$\frac{3}{4}$
$\frac{2}{4}$	$\frac{\square}{8}$	$\square$	$\frac{\square}{8}$	$\frac{1}{8}$
$\frac{5}{8}$	$\frac{\square}{8}$	$\square$	$\frac{\square}{8}$	$\frac{3}{4}$
$\frac{1}{2}$	$\frac{\square}{8}$	$\square$	$\frac{\square}{8}$	$\frac{3}{8}$

Rush hour. Order A is $\frac{5}{8}$ of a pizza. Order B is $\frac{3}{4}$. How many slices is the bigger order?

Show your work

Answer _____ **slices**

★ Copy this answer to your Shop Report (page 34).

PREVIEW

My name _____

Make the bottoms match. Then subtract.

$\frac{3}{4} - \frac{1}{8}$

same bottom 8: $\frac{\square}{8} - \frac{\square}{8} = \frac{\square}{8}$ simplest: $\square$

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

same bottom 8: $\frac{\square}{8} - \frac{\square}{8} = \frac{\square}{8}$ simplest: $\square$

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

same bottom 8: $\frac{\square}{8} - \frac{\square}{8} = \frac{\square}{8}$ simplest: $\square$

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

same bottom 4: $\frac{\square}{4} - \frac{\square}{4} = \frac{\square}{4}$ simplest: $\square$

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

same bottom 8: $\frac{\square}{8} - \frac{\square}{8} = \frac{\square}{8}$ simplest: $\square$

PREVIEW

My name _____

Total the party order.

THE BIG PARTY ORDER

Cheese	Pepperoni	Garden
$1\frac{1}{2}$ pizzas	$2\frac{3}{4}$ pizzas	$1\frac{1}{4}$ pizzas

Step 1. Add the whole pizzas: ☐

Step 2. Add the parts. Use fourths: $\frac{\square}{4} + \frac{\square}{4} + \frac{\square}{4} = \frac{\square}{4}$

Step 3. Change the parts to a mixed number: ☐ $\frac{\square}{\square}$

Step 4. Total pizzas: ☐ $\frac{\square}{\square}$

Each pizza has 8 slices. Slice Corner needs ☐ slices.

The shop bakes ☐ whole pizzas so there is enough.

Show your work.

PREVIEW

My name _____

CLOSING TIME

My Shop Report



Copy your six answers. Then add and divide.

Mission	Slices from the rush-hour problem
★ 1. Ticket Window	
★ 2. The Cutting Table	
★ 3. The Warming Tray	
★ 4. Party Order	
★ 5. Lunch Rush	
★ 6. Count the Cooler	

1. Add up the day

Slices sold in all ____

2. Whole pizzas

My pizza has ____ slices

____ whole pizzas and ____ slices more

3. Money

Each slice costs 2 dollars.

Money earned ____ dollars

4. The cooler

We baked 12 pizzas. Slices baked ____

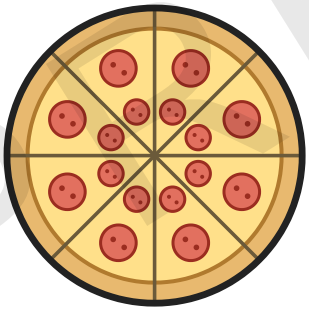
Slices left ____

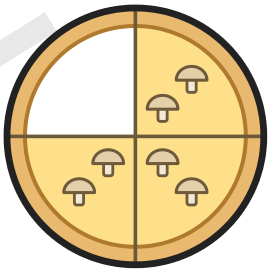
PREVIEW

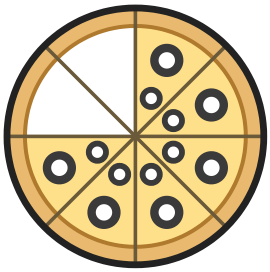
My name _____

Check your work. Tick each box.

- [ ] I wrote my name on every page.
- [ ] I wrote the same bottom number before I added or subtracted.
- [ ] I changed my answer to simplest form.
- [ ] I wrote a mixed number when the answer was more than 1.
- [ ] I shaded a bar or a pizza to check one answer.
- [ ] I showed my work.
- [ ] I read my shop report again.







My best fraction work was _____

Next time I will _____

PREVIEW

Answer Key: Mission 1, Ticket Window

Slice Corner just opened! Mrs. Rossi hands you the first tickets. On each pizza, the slices with toppings are the order. Rush-hour answers are numbers of slices; they go on the Shop Report (page 34).

● Circle: small pizzas cut in 4: halves and fourths, a picture in every row

Row	Answer
1 of 4 slices	1 topped, 4 in all: 1/4
3 of 4 slices	3 topped, 4 in all: 3/4
1 of 2 slices	1 topped, 2 in all: 1/2
2 of 4 slices	2 topped, 4 in all: 2/4
Rush hour	**3 slices** (3/4 of 4 slices = 3)

■ Square: large pizzas cut in 8: eighths, fourths and halves, pictures in most rows

Row	Answer
1 of 8 slices	1/8; 7 not topped: 7/8
3 of 8 slices	3/8; 5 not topped: 5/8
5 of 8 slices	5/8; 3 not topped: 3/8
7 of 8 slices	7/8; 1 not topped: 1/8
Rush hour	**5 slices** (5 slices)

▲ Triangle: large pizzas cut in 8: simplest form, missing bottom numbers, mixed numbers, few pictures

Row	Answer
2 of 8 slices	2/8 = 1/4
6 of 8 slices	6/8 = 3/4
4 of 8 slices	4/8 = 1/2
2 of 4 slices	2/4 = 1/2
Rush hour	**13 slices** (1 5/8 = 13/8, so 13 slices)

What to watch for

Watch for a child who writes the topped slices over the topped slices (3/3) instead of over all the slices. Ask: how many slices does the whole pizza have? In the triangle table the simplest form of 2/8 is 1/4 and of 6/8 is 3/4; two rows show 1/2 cut two different ways.

PREVIEW

Answer Key: Mission 4, Party Order

A birthday party calls! Add the two orders to make one big order. Rush-hour answers are numbers of slices; they go on the Shop Report (page 34).

● Circle: small pizzas cut in 4: halves and fourths, a picture in every row

Row	Answer
1/4 + 2/4	3/4
1/4 + 1/4	2/4 = 1/2
2/4 + 2/4	4/4 = 1
2/4 + 1/4	3/4
Rush hour	2 slices (1/4 + 1/4 = 2/4, so 2 slices)

■ Square: large pizzas cut in 8: eighths, fourths and halves, pictures in most rows

Row	Answer
3/8 + 2/8	5/8
2/8 + 4/8	6/8 = 3/4
5/8 + 2/8	7/8
3/8 + 5/8	8/8 = 1
Rush hour	7 slices (3/8 + 4/8 = 7/8, so 7 slices)

▲ Triangle: large pizzas cut in 8: simplest form, missing bottom numbers, mixed numbers, few pictures

Row	Answer
5/8 + 4/8	9/8 = 1 1/8
3/4 + 2/4	5/4 = 1 1/4
7/8 + 5/8	12/8 = 1 1/2
6/8 + 7/8	13/8 = 1 5/8
Rush hour	12 slices (5/8 + 7/8 = 12/8, so 12 slices)

What to watch for

Only the tops are added. A child who writes 2/8 for 1/4 + 1/4 added the bottoms too; the bar shows 2 of 4 shaded. In the triangle table every total is more than one pizza, so the mixed number is the real answer.

PREVIEW

Answer Key: Mission 6, Count the Cooler

Closing time. Count the pizza in the cooler. Whole pizzas and parts of a pizza make a mixed number. Rush-hour answers are numbers of slices; they go on the Shop Report (page 34).

● Circle: small pizzas cut in 4: halves and fourths, a picture in every row

Row	Answer
1 whole and 1/4	1 1/4 = 5/4
1 whole and 3/4	1 3/4 = 7/4
2 whole and 1/4	2 1/4 = 9/4
1 whole and 1/2	1 1/2 = 3/2
Rush hour	7 slices (1 3/4 = 7/4, so 7 slices)

■ Square: large pizzas cut in 8: eighths, fourths and halves, pictures in most rows

Row	Answer
1 whole and 3/8	1 3/8 = 11/8
2 whole and 5/8	2 5/8 = 21/8
1 whole and 7/8	1 7/8 = 15/8
2 whole and 1/8	2 1/8 = 17/8
Rush hour	19 slices (2 3/8 = 19/8, so 19 slices)

▲ Triangle: large pizzas cut in 8: simplest form, missing bottom numbers, mixed numbers, few pictures

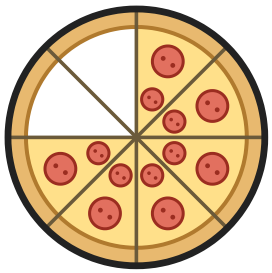
Row	Answer
11/8	1 3/8
14/4	3 2/4 = 3 1/2
13/8	1 5/8
10/4	2 2/4 = 2 1/2
Rush hour	28 slices (3 1/2 = 28/8, so 28 slices)

What to watch for

The whole pizzas are the whole-number part and the last pizza in the picture is the fraction. To change a mixed number to a fraction: whole x bottom + top, over the bottom. In the triangle table, 14/4 and 10/4 also simplify to a halves answer.

PREVIEW

Our Pizza Shop Fractions Project



Date: _____

Dear family of _____,

This week your child is the owner of a pretend pizza shop called Slice Corner. A small pizza has 4 slices and a large pizza has 8 slices, so your child works with halves, fourths and eighths. They read orders, match different cuts of the same amount, find how much pizza is left, add orders, compare orders and count whole pizzas and parts as mixed numbers. At closing time they file a Shop Report with slices sold and money earned. Nothing has to be bought.

Try it at home

Cut a piece of paper or a snack into 8 equal parts. Ask your child to tell you what fraction you ate and what fraction is left. Write their words on the lines.

_____

Talk about it

- Why do the slices have to be the same size?
- Which is more, 3/4 of a pizza or 5/8? How can we tell?

Draw a pizza your family would order. Cut it in 8 slices and shade 3/8.

From _____ Questions? _____

PREVIEW