AchieveMath

Student Book

Volume 1

Name:

Catapult Learning™

Unit 1:

Introduction to Multiplication

Catapult Learning™

Catapult Learning™

Catapult Learning, LLC
1-800-841-8730

www.catapultlearning.com

Printed in the United States of America.

Party Playlist

Part 1: Use **counters** to model the problem. Then write an addition equation and a multiplication equation showing how you found the answer.

1. A group of 4 friends will each choose 3 songs to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

_____ songs wlll be in the playlist.

2. A group of 6 friends will each choose 2 songs each to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

_____ songs wlll be in the playlist.

Part 2: Look at the equation. Use **counters** to make a model. Then say how many friends and songs your model shows.

3. 5 + 5 + 5 = ☐ _____ friends choose _____ songs each.

4. 3 × 2 = ☐ _____ friends choose _____ songs each.

5. 4 + 4 + 4 + 4 = ☐ _____ friends choose _____ songs each.

6. 10 × 1 = ☐ _____ friends choose _____ song each.

7. 2 + 2 + 2 = ☐ _____ friends choose _____ songs each.

More Songs

Part 1: Use **counters** to model the problem. Then write an addition equation and a multiplication equation showing how you found the answer.

1. A group of 3 friends will choose 8 songs each to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

_____ songs wlll be in the playlist.

2. A group of 5 friends will choose 3 songs each to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

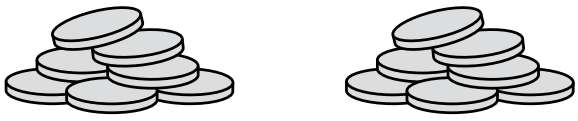
_____ songs wlll be in the playlist.

Part 2: Make set models like the ones shown. Write the number of friends and songs represented by each model.

3. 

_____ friends choose _____ songs each.

_____ songs in the playlist

4. 

_____ friends choose _____ songs each.

_____ songs in the playlist

Lesson 1 Exit Ticket

Use **counters** to model the problem. Then write an addition equation and a multiplication equation showing how you found the answer.

1. A group of 3 friends will each choose 6 songs to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

_____ songs wlll be in the playlist.

2. A group of 6 friends will each choose 1 song to make a playlist. How many songs will be in the playlist?

Addition: _____ Multiplication: _____

_____ songs will be in the playlist.

3. A group of 3 friends will each choose 4 songs to make a playlist. How many songs will be in the playlist?

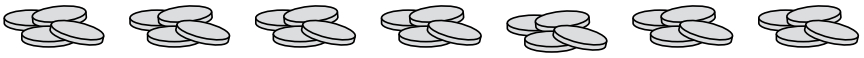
Addition: _____ Multiplication: _____

_____ songs wlll be in the playlist.

Extra Practice: How Many Days?

Use **counters** to model each problem. Then circle the picture that looks like the model you built. Write an addition and multiplication equation for each model.

1. Steve will leave for vacation in 4 weeks. There are 7 days in a week. Steve will leave for vacation in _____ days.

A 

B 

C 

addition _____ multiplication _____

2. Nala got a new bike 6 weeks ago. She rode her bike to the park 3 days each week. Nala rode her bike to the park _____ times in the past 6 weeks.

A 

B 

C 

addition _____ multiplication _____

Swim Meet

Draw a **set model** to solve each problem. Then write a multiplication equation.

1. A swim meet has 6 teams. Each team has 4 swimmers. How many swimmers will there be?

☐ × ☐ = ☐

2. Amelia's loves the butterfly race. In this race, swimmers do 2 laps in the pool. If 7 swimmers race, how many laps do the swimmer do all together?

☐ × ☐ = ☐

3. The Purple Porpoises team wants snacks! They want 3 bananas for each swimmer. If there are 9 Purple Porpoises, how many bananas does Amelia need to buy?

☐ × ☐ = ☐

4. After the swim meet, it's time for Amelia to wash all the towels. The pool house has 5 washing machines. Each washing machine can hold 10 towels. How many towels can Amelia wash at once?

☐ × ☐ = ☐

Swim Teams

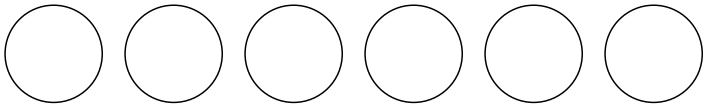
Review the example problem. Then use drawings and equations to solve.

Example

6 teams swim in the freestyle race. Each team has **3** swimmers. How many swimmers are in the freestyle race?

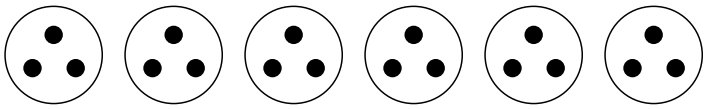
Step 1

Make a drawing to show the number of groups.
6 teams = **6** groups.



Step 2

Draw dots in each group to show the number of objects.
3 swimmers on each team = **3** dots in each group.



Step 3

Identify the factors. Write a multiplication equation.

6 groups of **3** objects **6** × **3** = ?

Step 4

Count the number of dots, use repeated addition, or use a multiplication table to find the product.

18 total dots

3 + 3 + 3 + 3 + 3 + 3 = 18 **6** × **3** = 18

_____ swimmers will be in the race.

1. 8 teams swim in the backstroke race. Each team has 3 swimmers. How many swimmers are in the backstroke race?

I made _____ groups of _____.

☐ × ☐ = ☐

_____ swimmers are in the race.

2. Each swimmer on the Super Sharks has 2 pairs of goggles. There are 5 Super Sharks. How many pairs of goggles does the team have?

I made _____ groups of _____.

☐ × ☐ = ☐

The team has _____ pairs of goggles.

Lesson 2 Exit Ticket

Amelia must get water bottles for each team. Create a set model and multiplication equation to find how many bottles each team wants. Then answer the questions.

1. The Purple Porpoises want 2 water bottles for each swimmer. The team has 9 swimmers.

Set Model:	
How many groups are there? _____ How many objects are in each group? _____	Multiplication equation:

2. The Super Sharks want 1 water bottle for each swimmer. The team has 5 swimmers.

Set Model:	
How many groups are there? _____ How many objects are in each group? _____	Multiplication equation:

3. The Quick Otters have 7 swimmers. Each swimmer wants 3 water bottles.

Set Model:	
How many groups are there? _____ How many objects are in each group? _____	Multiplication equation:

Extra Practice: Windows

Part 1: Draw a set model and write a multiplication equation to find the number of windows in each school.

1. Grayson Elementary has 8 classrooms. Each classroom has 7 windows.

Set Model:	
How many groups are there? _____ How many objects are in each group? _____	Multiplication equation:

2. Jones Elementary has 8 windows in each classroom. There are 7 classrooms.

Set Model:	
How many groups are there? _____ How many objects are in each group? _____	Multiplication equation:

Part 2: Solve the problem using pictures and numbers.

3. Mr. Earle's art club helps clean the school's windows. Each club member cleans 4 windows. The club has 9 members. How many windows did the art club clean?

Newspaper Delivery

Part 1: Use a **number line** to find the arithmetic rule. Then fill in the table to extend the pattern.

1. The first four addresses on Willow Street are 513, 528, 543, and 558. Mr. Hayes lives in the seventh house on Willow Street. What is his address?

House	1st	2nd	3rd	4th	5th	6th	7th
Address	513	528	543	558			

Mr. Hayes lives at _____ Willow Street.

What rule explains the number pattern? _____

Part 2: Use a **multiplication table** to help you answer the questions.

2. The last four addresses on Magnolia Street are 35, 42, 49, and 56.

a. What do you think the first four addresses on Magnolia Street are?

_____

b. Why do you think so? _____

_____

_____

3. Oscar delivers papers to 5 apartment buildings. On Monday, he delivers an odd number of papers to each building.

a. Is the total number of papers Oscar delivers on Monday odd or even? _____

b. How do you know? _____

_____

_____

Addresses

Review the example problem. Use a **hundred chart** or **multiplication table** to solve.

Example

The first four houses on Elm Street are numbered 2, 7, 12, and 17. What is the number of the fifth house on Elm Street?

Step 1

Shade the numbers and look for a visual pattern.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	22	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

Step 2

Find the next number in the pattern.

1	2	3	4	5	6	7	8	9	10
11	12	13	14	15	16	17	18	19	20
21	**22**	23	24	25	26	27	28	29	30
31	32	33	34	35	36	37	38	39	40

Step 3

Describe the rule using the four operations.

2 **+ 5** = 7
7 **+ 5** = 12
12 **+ 5** = 17
17 **+ 5** = 22

Add 5 each time. The fifth house is **22.**

1. The first four houses on Hickory Street are numbered 6, 12, 18, and 24.

a. What is the number of the sixth house? _____

b. How would you describe the number pattern? _____

_____

2. The first four houses on Tulip Street are numbered 1, 13, 25, and 37.

a. What is the number of the fifth house? _____

b. How would you describe the number pattern? _____

_____

Lesson 3 Exit Ticket

Use a **number line, hundred chart,** or **multiplication table** to solve.

1. The table below shows how many papers Oscar delivered one week in April.

Wednesday	Thursday	Friday	Saturday	Sunday
48	55	62		

a. If the pattern continues, how many papers will he deliver on Sunday? _____

b. How would you describe the arithmetic rule? _____

2. One week, Oscar delivered papers only 4 days. He delivered the same number of papers each day.

a. Did Oscar deliver an even or odd number of papers? _____

b. How do you know? _____

3. The table below shows how many new customers Oscar got each month.

Month	Number of New Customers
January	64
February	57
March	50
April	43
May	36
June	29
July	
August	
September	
October	

a. If the pattern continues, how many new customers will he get in October? _____

b. How would you describe the arithmetic rule? _____

Extra Practice: Park Cleanup

Part 1: Use a **multiplication table** to find the arithmetic rule and complete the table.

1. A local business will donate $3 if the Great Grizzles pick up 10 pieces of litter. It will donate $6 if the Grizzlies pick up 20 pieces of litter.

a. If the pattern continues, how much will the business donate if the Grizzles pick up 80 pieces of litter? _____

Pieces of Litter	Money donated
10	3
20	6
30	
40	
50	
60	
70	
80	

What is the arithmetic rule for the money donated per 10 pieces of litter?

_____

Part 2: Use a **number line** to find the arithmetic rule and answer the question.

2. Kai does the Smith Park cleanup each year. She keeps track of how many plastic bottles she picks up. Her first year, she picked up 104 bottles. The second year, she picked up 112. This year, she picked up 120.

a. If the pattern continues, how many bottles will she pick up next year? _____

b. What is the arithmetic rule? _____

Book Drive

Ms. Peters' class collected books each week. Use **counters** to make an array for each week. Fill in the table. Then answer the questions.

Week	Books collected	Number of rows in array	Number of columns in array	Multiplication equation
Three	5 shelves of 6 books			
Four	5 shelves of 8 books			
Five	3 shelves of 5 books			
Six	7 shelves of 6 books			
Seven	10 shelves of 4 books			

1. How are the factors for Week Three related to your array?

_____

_____

2. How is the product for Week Four related to your array?

_____

_____

Food Drive

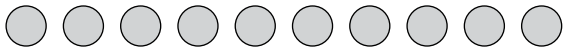
The book drive went so well, Ms. Peters' class decides to hold a food drive. Use **counters** to make an array for each donation. Write the equation that helps you find the total number of objects. Then draw a line to match each array to the food it models.

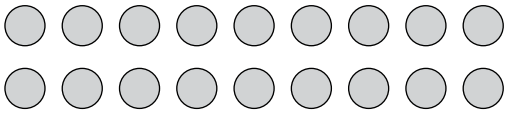
Soup	Shelves	6
	Cans	7
	Equation	☐ × ☐ = ☐

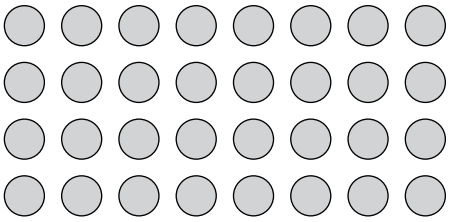
Beans	Shelves	4
	Cans	8
	Equation	☐ × ☐ = ☐

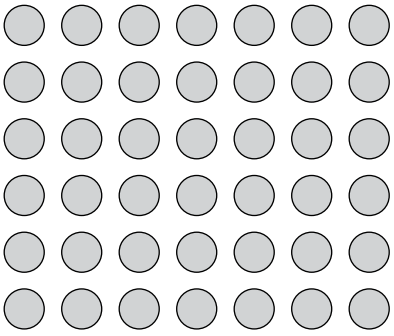
Vegetables	Shelves	1
	Cans	10
	Equation	☐ × ☐ = ☐

Fruit	Shelves	2
	Cans	9
	Equation	☐ × ☐ = ☐





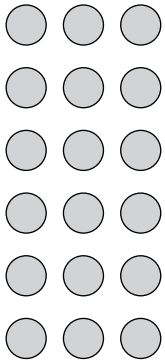




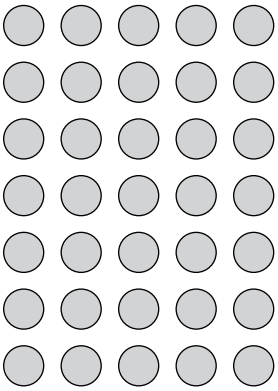
Lesson 4 Exit Ticket

Use **counters** to make an array for each problem. Write the equation that helps you find the total number of objects. Then draw a line to match each array to the problem it models.

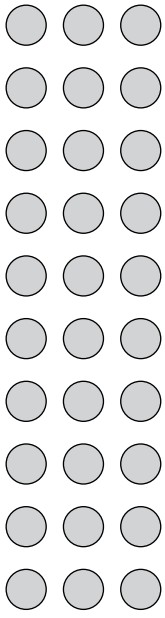
1	Each student in art class makes 5 paintings. There are 7 students. How many paintings does the class make?
	Equation: ☐ × ☐ = ☐



2	A coding class has 10 students. Each student writes 3 lines of code. How many lines of code does the class write?
	Equation: ☐ × ☐ = ☐



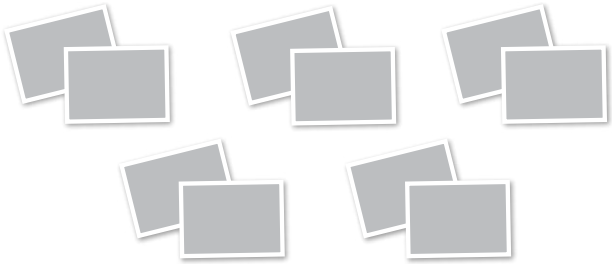
3	The animal shelter has 6 cat rooms. Each cat room has 3 cats. How many cats are in the shelter?
	Equation: ☐ × ☐ = ☐



Extra Practice: Photographs

Help Zoey count her photos by making arrays with **counters**. Write how many rows and columns are in your array and a multiplication equation.

1. Zoey took some photos at the park:

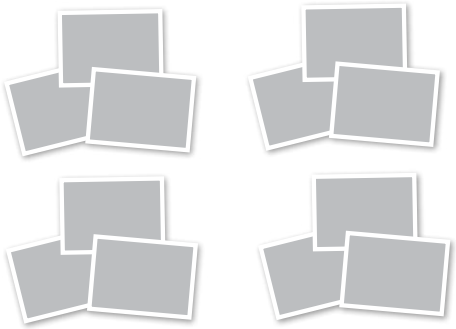


My array has _____ rows.

My array has _____ columns.

☐ × ☐ = ☐

2. Zoey took some photos at school:

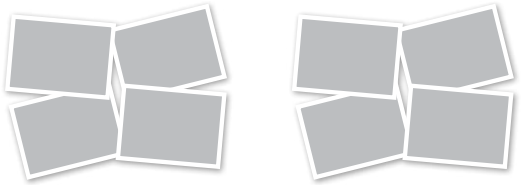


My array has _____ rows.

My array has _____ columns.

☐ × ☐ = ☐

3. Zoey took some photos of her pets:



My array has _____ rows.

My array has _____ columns.

☐ × ☐ = ☐

Blast-O-Rama

Draw arrays and use multiplication to solve.

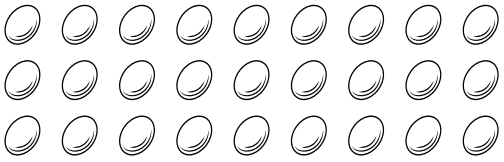
1. The Big Voices Choir is taking vans to Blast-O-Rama to celebrate singing at the White House. Each van can carry 6 singers. The choir is taking 7 vans. How many singers are in the choir?

☐ × ☐ = ☐ singers

2. The parents of the singers will carpool to Blast-O-Rama. Each car can hold 4 adults. There are 9 cars that will be filled. How many parents are going to the park?

☐ × ☐ = ☐ parents

3. A group of friends brought grapes to eat for a snack. The array shows the number of friends and the number of grapes they ate.



How many friends ate grapes? _____

How many grapes did each friend eat? _____

How many grapes did the friends eat all together? _____

Fun at the Park

Review the example problem. Then draw arrays to answer the questions.

Example

Gabriel and his family are going to Blast-O-Rama. It takes his family **2** hours to drive there. Each hour they pass **4** signs for Blast-O-Rama. How many signs did Gabriel see?

Step 1

Find the number of groups and objects in each group.

There are **2** hours. Each hour has **4** Blast-O-Rama signs.

Step 2

Write an expression to represent the problem.

2 × **4**

Step 3

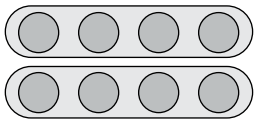
Draw one row for each group.

Hour 1 ○ ○ ○ ○

Hour 2 ○ ○ ○ ○

Step 4

Use skip-counting or multiplication to solve.



2 × **4** = 8

1. At Blast-O-Rama, Gabriel rides a horse on the carousel. The carousel has 3 levels. Each level has 8 horses. How many horses are on the carousel?

☐ × ☐ = ☐ horses

2. Gabriel and his family go to the gift shop. Each person buys 4 souvenirs. There are 5 people in Gabriel's family. How many souvenirs did the family buy?

☐ × ☐ = ☐ souvenirs

Lesson 5 Exit Ticket

Draw arrays and write multiplication equations to solve.

1. Blast-O-Rama has 5 gift shops. Each gift shop is selling 3 Colossal Blastoff water canons. How many water canons are for sale at Blast-O-Rama?

☐ × ☐ = ☐ canons

2. Blast-O-Rama has 4 giant movie screens. Each screen shows 4 movies each day. How many movies play at Blast-O-Rama each day?

☐ × ☐ = ☐ movies

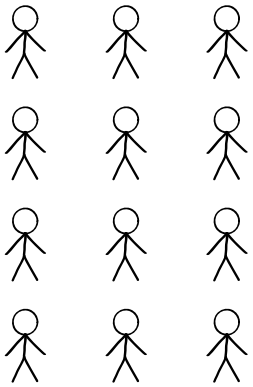
3. Blast-O-Rama is open 7 months a year. The park has been open for 8 years. How many months has the park been open in total?

☐ × ☐ = ☐ months

Extra Practice: The Subway

Part 1: Write an equation to represent the array.

1. A subway car can fit 3 people on a bench. The car has 4 benches. If the benches are full, how many people are sitting on them?



☐ × ☐ = ☐ people

Part 2: Draw an array to solve.

2. Each car on a subway train can fit 9 people. There are 5 cars on the train.

a. How many cars are on the train? _____

b. How many people can sit in each car? _____

c. How many people can ride on the train? _____

☐ × ☐ = ☐ people

Let's Plant

Part 1: Use **square tiles** to make the garden described. Then write a multiplication equation and find the area.

Laci's Garden

6 rows 3 columns

Multiply: _____

Area: _____

Watson's Garden

5 rows 9 columns

Multiply: _____

Area: _____

Ichiro's Garden

2 rows 4 columns

Multiply: _____

Area: _____

Margaret's Garden

3 rows 7 columns

Multiply: _____

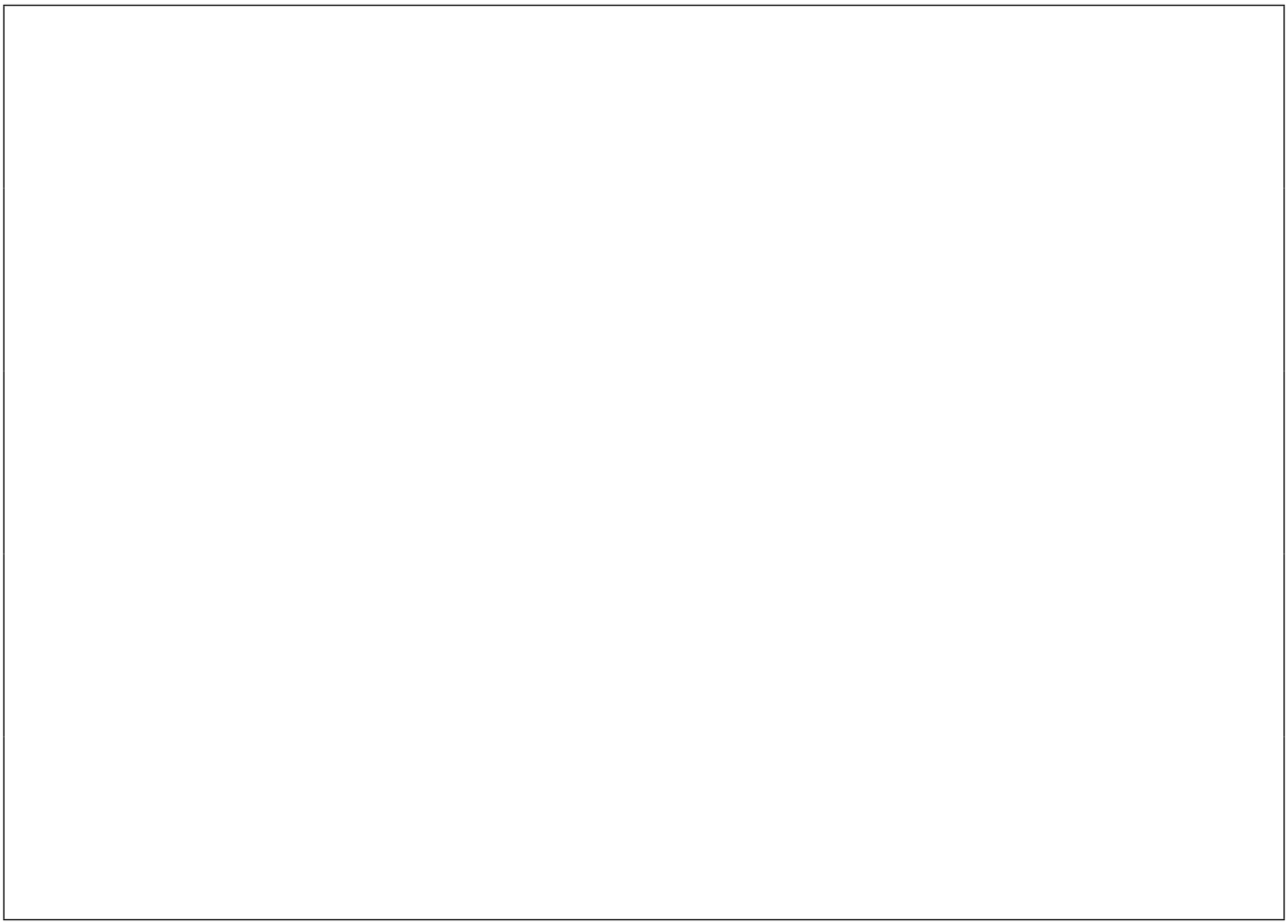
Area: _____

Part 2: Use your **square tiles** to build a garden that matches the multiplication expression. Then find the area.

Multiplication Expression	Area
5 × 3	
10 × 9	
3 × 4	
8 × 8	
7 × 5	

Planning a Garden

Part 1: Omar planned another garden. Help him measure how big it is.
Fill the rectangle below with **square tiles**. Then write a multiplication equation and find the area.



1. How many rows? _____

2. How many columns? _____

3. Multiplication equation: _____

4. Area: _____

Part 2: Create your own garden with **square tiles**. Then write a multiplication equation and find the area.

5. How many rows? _____

6. How many columns? _____

7. Multiplication equation: _____

8. Area: _____

Lesson 6 Exit Ticket

1. A gardener has three flower gardens in his backyard. He needs to find the area of each garden. Use **square tiles** to find the area.

Garden A

Area: _____

Garden B

Area: _____

Garden C

Area: _____

_____

2. Match each garden's area to the multiplication expression you can use to find it.

Garden A	6×2
Garden B	3×3
Garden C	2×3

Extra Practice: Floors

Part 1: Find the area of the floors in Olivia's house using the information below. Use **square tiles** to make a model of each room.

Living Room

4 rows 4 columns

Multiply: _____

Area: _____

Kitchen

7 rows 2 columns

Multiply: _____

Area: _____

Part 2: Glue paper squares below to make a rectangle. Then use numbers to describe your area model.

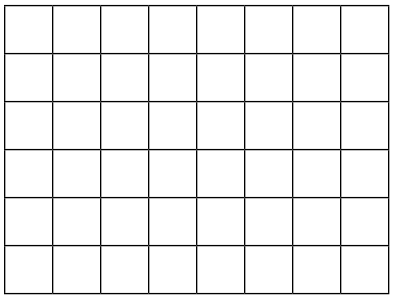
My model has _____ rows and _____ columns. I can use _____ × _____

to find the area. The area is _____ square units.

Murals

Part 1: Write a multiplication equation to find the area.

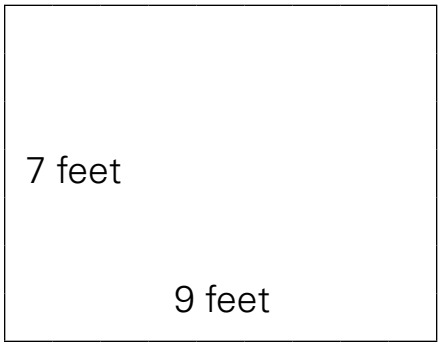
1. Jorge will paint a mural in his school hallway. Look at the area model below. Each square has an area of 1 square foot. What is the area of the mural?



Multiplication: _____

The area of the mural is _____.

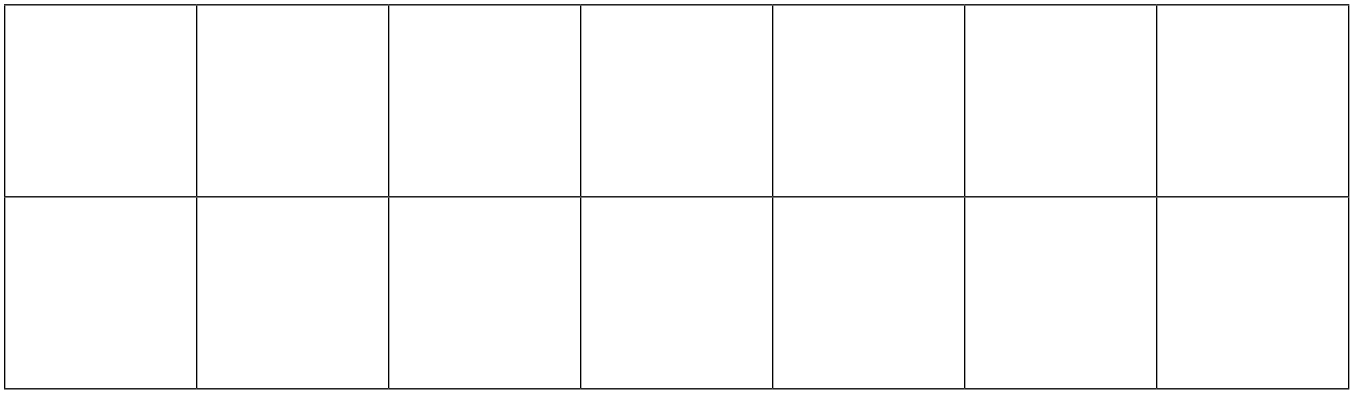
2. Jorge does a great job with the hallway mural. So, the principal asks him to paint a mural on the side of the school. The mural wall is shown below. What is the area of the mural?



Multiplication: _____

The area of the mural is _____.

Part 2: Use the grid below to draw a rectangle that is 2 units long and 4 units wide.



3. What is the area of the rectangle? _____

Art Gallery

Review the example problem. Then use **graph paper** and write a multiplication equation to find the area of each canvas.

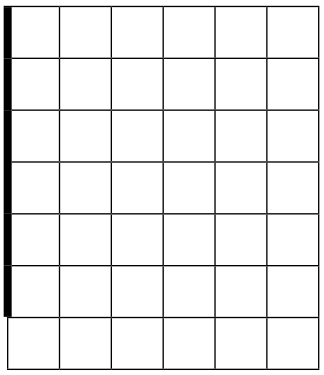
Example

Jorge is painting a picture for an art gallery. The canvas is **6** feet long and **4** feet wide. What is the area of the canvas?

Step 1

Use graph paper to draw the length.

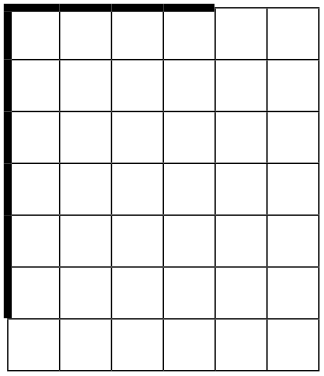
l = **6** feet



Step 2

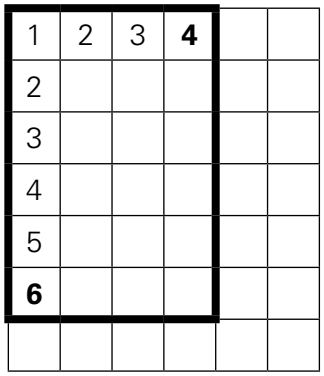
Use graph paper to draw the width.

w = **4** feet



Step 3

Finish the rectangle. Make sure the number of rows matches the length, and the number of columns matches the width.



Step 4

Use the formula $l \times w = A$ to find the area.

$l \times w = A$

6 × **4** = 24 square feet

Canvas 1

length: 10 inches width: 8 inches

Multiply: _____

Area: _____

Canvas 2

length: 6 feet width: 1 foot

Multiply: _____

Area: _____

Canvas 3

length: 6 feet width: 7 feet

Multiply: _____

Area: _____

Canvas 4

length: 4 feet width: 5 feet

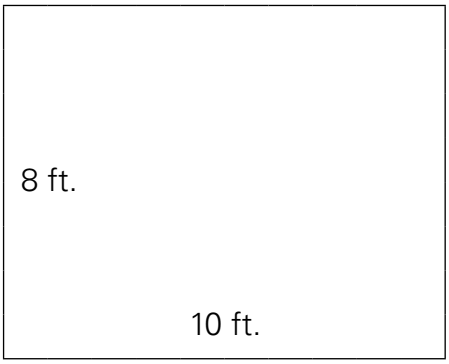
Multiply: _____

Area: _____

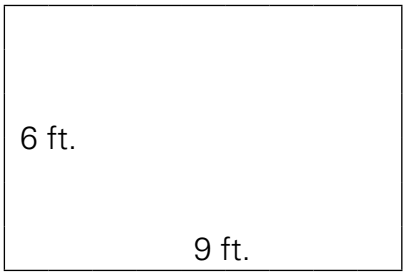
Lesson 7 Exit Ticket

Carrie is going to sew tablecloths for her family. The pictures below show the length and width of each tablecloth. What is the area of each tablecloth? You may use **graph paper** to help you. Explain your strategies using words and pictures.

Tablecloth 1



Tablecloth 2



Area: _____

Explain: How did you find the area?

_____

_____

_____

_____

_____

Area: _____

Explain: How did you find the area?

_____

_____

_____

_____

_____

Extra Practice: Photos

Part 1: Use **graph paper** and write a multiplication equation to find the area of each photograph.

Photo 1

length: 7 inches width: 5 inches

Multiply: _____

Area: _____

Photo 2

length: 9 inches width: 2 inches

Multiply: _____

Area: _____

Photo 3

length: 4 inches width: 6 inches

Multiply: _____

Area: _____

Photo 4

length: 2 inches width: 9 inches

Multiply: _____

Area: _____

Part 2: Use the area formula to find the area of each photograph.

Photo 1

8 in.

7 in.

Area: _____

_____

Photo 2

4 in.

9 in.

Area: _____

_____

Photo 3

3 in.

7 in.

Area: _____

_____

The Mystery Mavericks

It took Maisie another week to finish reading *The Secret of the Yellow Jewel*. She made a table in her reading journal showing how much she read. Make **arrays** to help you complete the sentences. Then answer the questions.

Maisie's Reading Journal	
Days of Reading	3
Chapters Read Each Day	4
Pages in Each Chapter	2

Model 1

What is one way you can group the factors?

(☐ × ☐) × ☐

One array has _____ rows.

One array has _____ columns.

Each array has _____ pages.

I need to make _____ arrays.

Maisie read _____ total pages.

Model 2

What is another way you can group the factors?

☐ × (☐ × ☐)

One array has _____ rows.

One array has _____ columns.

Each array has _____ pages.

I need to make _____ arrays.

Maisie read _____ total pages.

The Secret of the Yellow Swan

Review the example problem. Then use an **array** to answer the questions.

Example

Maisie won the reading contest! She dives into her prize, *The Secret of the Yellow Swan*. She reads for **5** days. Each day she reads **2** chapters. Each chapter has **4** pages. How many pages did she read?

Step 1

Use the 3 factors to write a multiplication expression.

$5 \times 2 \times 4$

Step 2

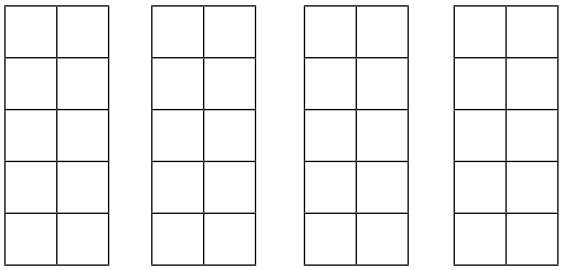
Find two ways to group the factors.

$(5 \times 2) \times 4$

$5 \times (2 \times 4)$

Step 3

Choose which array to model.



(**5** Number of rows) × **2** Number of columns) × **4** Number of arrays

Step 4

Find the product.

$(5 \times 2) \times 4$

$(10) \times 4 = 40$

Next week, Maisie decides to read for 7 days. Each day she will read 2 chapters. Each chapter has 3 pages.

1. Write a multiplication expression that represents the problem:

$\square \times \square \times \square$

2. Write two ways you can group the factors:

$(\square \times \square) \times \square$ OR $\square \times (\square \times \square)$

3. Draw the model you will use to solve the problem on graph paper.

4. How many pages will Maisie read? _____ pages

Lesson 8 Exit Ticket

Use the information from Maisie's reading journal to make an **array** using counters or a drawing. Then answer the questions.

Week Three	
Days of Reading	5
Chapters Read Each Day	1
Pages in Each Chapter	3

1. How many pages did Maisie read in Week Three? _____ pages

a. What multiplication equation did you use to solve?

_____

b. Which two factors did you multiply first? _____

Week Four	
Days of Reading	2
Chapters Read Each Day	3
Pages in Each Chapter	5

2. How many pages did Maisie read in Week Four? _____ pages

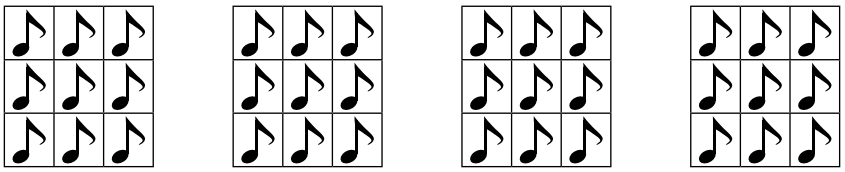
a. What multiplication equation did you use to solve?

_____

b. Which two factors did you multiply first? _____

Extra Practice: Trumpet Practice

Valentina made arrays to represent how many songs she practiced. Answer the questions about each array.



1. How many rows are in each array? _____

2. How many columns are in each array? _____

3. How many arrays are there? _____

4. What multiplication equation shows how many songs Valentina practiced?

(☐ × ☐) × ☐ = ☐

5. Draw a different model that shows how you can use arrays to solve:

What multiplication equation matches this model?

☐ × (☐ × ☐) = ☐

Scorekeeper

The Giggling Seals hockey team goes head-to-head with the Ice Foxes in the championship game! The scoreboard at the end of the game looks like this:

	Period 1	Period 2	Period 3
Giggling Seals	6	6	6
Ice Foxes	4	4	4

1. Use **square tiles** or **graph paper** to model the points the Giggling Seals scored. Then answer the questions.

2. What multiplication expression shows how many total points the Giggling Seals scored?

☐ × ☐

3. Which factor will you break up? Model how you will do this on your graph paper.

I broke up _____ into _____ + _____.

4. Use the distributive property to write a new multiplication expression.

(☐ × ☐) + (☐ × ☐)

5. What are the two partial products? _____ and _____

6. How many points did the Giggling Seals score? _____ points

The Tennis Match

Review the example problem. Then use **graph paper** to make a model and answer the questions.

Example

Julian plays **6** tennis games on Saturday. He scores **4** points in each game. How can you use the distributive property to show how many total points Julian scored on Saturday?

Step 1

Write a multiplication expression with the two factors.

6 × **4**

Step 2

Make an area model.

1	2	3	**4**
2			
3			
4			
5			
6			

Step 3

Decide which factor to break up. Break up your model and write a new expression.

6 = 3 + 3

1	2	3	**4**
2			
3			

3 × **4**

1	2	3	**4**
2			
3			

3 × **4**

(3 × **4**) + (3 × **4**)

Step 4

Add the partial products to get the total product.

(3 × **4**) + (3 × **4**)

(12) + (12) = 24

6 × **4** = 24

Julian plays 7 tennis games on Sunday. He scores 4 points in each game. How many points does he score?

1. Use the two factors to write a multiplication expression: ☐ × ☐

2. Describe your area model: _____

_____

3. Use words, numbers, and pictures to show you can use the distributive property to find the product.

Lesson 9 Exit Ticket

Felix is an awesome pitcher! Here's how many fastballs he threw at the game:

Inning	1	2	3	4	5	6	7	8	9
Fastballs	3	3	3	3	3	3	3	3	3

Use **graph paper** or **square tiles** to model how many fastballs Felix threw.
Then answer the questions.

1. What multiplication expression shows how many fastballs Felix threw?

$\square \times \square$

2. Use the distributive property to break up one of the factors. What is the new multiplication expression?

$(\square \times \square) + (\square \times \square)$

3. What are the two partial products? _____ and _____

4. How many fastballs did Felix throw? _____ points

Extra Practice: Play Time!

Draw a model on graph paper. Then write an equation to show how you could use the distributive property to answer the questions.

1. Mia played with her dog, Wasabi, 5 times today. Each play session lasted 7 minutes. How many minutes did Mia play with Wasabi today?

$\square \times \square = (\square \times \square) + (\square \times \square)$

$\square + \square = \square$

Mia played with Wasabi for _____ min.

2. Alexander played with his bunny, Blaze, 4 times today. Each play session lasted 6 minutes. How many minutes did Alexander play with Blaze today?

$\square \times \square = (\square \times \square) + (\square \times \square)$

$\square + \square = \square$

Alexander played with Blaze for _____ min.

3. Sada played with her guinea pig, Mango, 6 times today. Each play session lasted 8 minutes. How many minutes did Sada play with Mango today?

$\square \times \square = (\square \times \square) + (\square \times \square)$

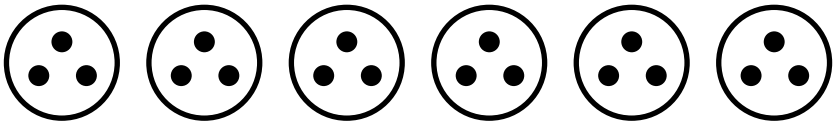
$\square + \square = \square$

Sada played with Mango for _____ min.

Assessment

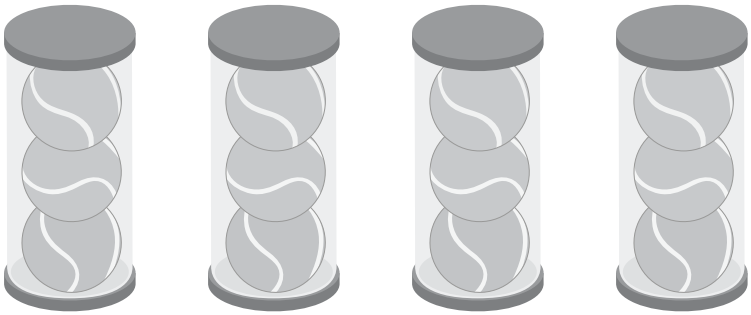
Unit 1 Assessment

1. Look at the model below. What multiplication equation describes it?



Multiplication: ☐ × ☐ = ☐

2. Look at the picture below. What multiplication equation describes it?



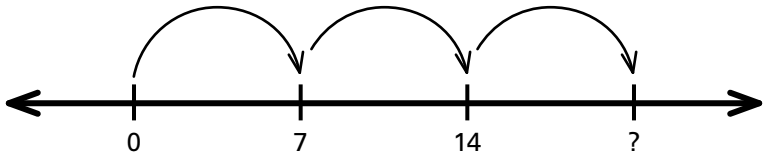
Multiplication equation: ☐ × ☐ = ☐

3. Complete the following pattern:

4	8		16		24

How would you describe the arithmetic rule? _____

4. Use the number line to find the arithmetic rule and answer the questions.



If the pattern continues, what is the next number? _____

What is the arithmetic rule? _____

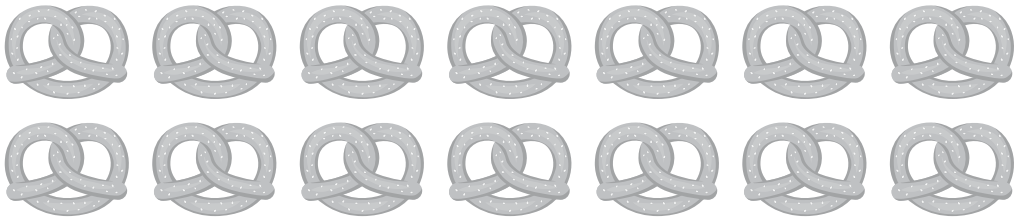
5. Joe plants 5 rows of beans. He puts 6 plants in each row. How many bean plants does Joe put in his garden?

a. Draw an array to solve the problem.

b. Write a multiplication equation to solve the problem.

Multiplication equation: ☐ × ☐ = ☐ bean plants

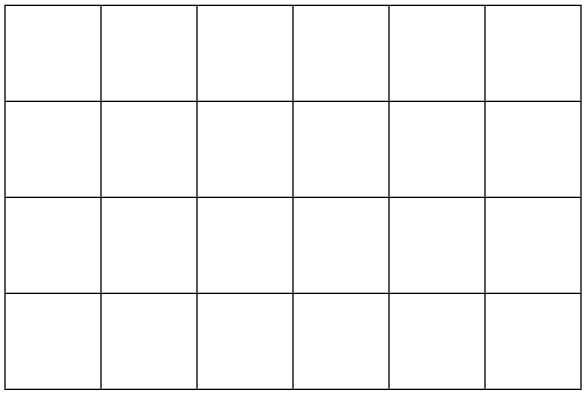
6. Heath organized his pretzels into an array. Describe his pretzels using numbers.



Heath has _____ rows of _____ pretzels.

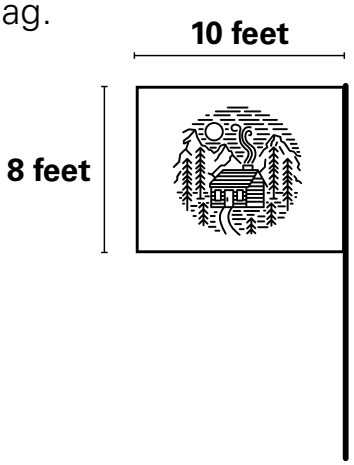
☐ × ☐ = ☐ pretzels

7. Use the grid below to draw a rectangle that is 3 square units long and 5 square units wide.



What is the area of the rectangle? _____ square units

8. Write a multiplication equation and find the area of the flag.



Multiplication: ☐ × ☐ = ☐

Area: _____

9. Use the distributive property to solve the equation.

$$12 \times 6 = ?$$

$$(10 \times 6) + (\square \times 6) = ?$$

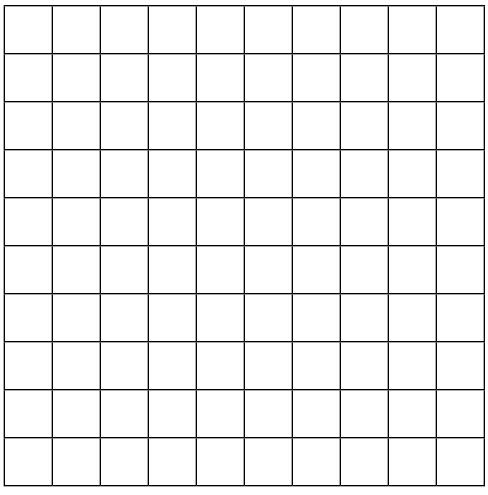
$$(\square) + (\square) = \square$$

10. Draw a model and show how you could use the distributive property to solve the equation.

$$6 \times 9 = ?$$

$$(\square \times \square) + (\square \times \square) = ?$$

$$(\square) + (\square) = \square$$



Unit 1 Cumulative Review

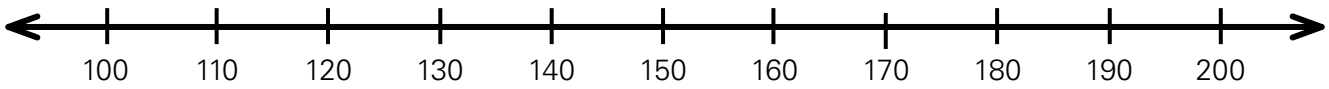
1. Hank picked 13 berries. His sister Donna picked 5 fewer berries than Hank. How many berries does Donna have?

a. Complete the equation.

$\square - \square = ?$

b. How many berries does Donna have? _____

2. Devon has 168 butterfly stickers. Richie has 128 butterfly stickers. Show their numbers on the number line:



Who has more stickers? How do you know? _____

_____

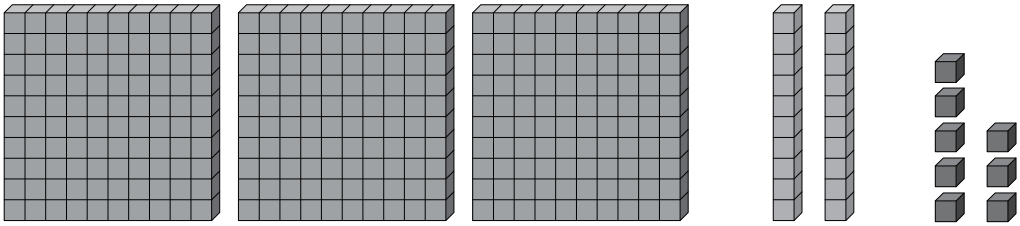
_____

3. There are 8 cars on the road. Each car has 2 people. How many people are in cars?

a. Draw an array to represent the problem.

b. Write a multiplication equation to solve the problem. _____

4. Write the number in expanded form.



[ ] + [ ] + [ ] = [ ]

5. Fill in the table to help you add 318 + 226.

Number	Hundreds	Tens	Ones
318			
226			

318 + 226 = [ ]

6. Use the number line to subtract 84 – 57.

84 – 57 = [ ]

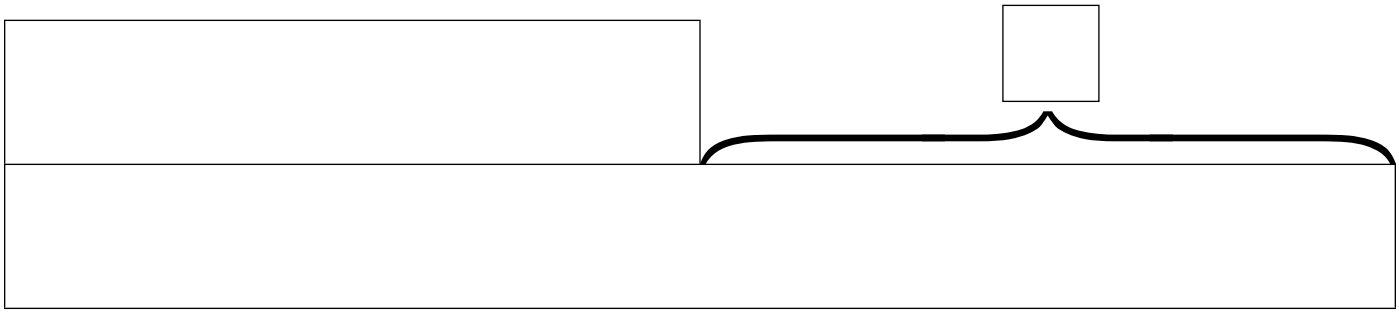
7. Mindy has 7 red marbles and 9 blue marbles. How many marbles does Mindy have?

☐ + ☐ = ? Mindy has _____ marbles.

8. Use the number line to subtract 96 – 23.

96 – 23 = ☐

9. Jackson has 9 books about snakes. Teddy has 14 snake books. That's 5 more than Jackson! Complete the tape diagram to model the number of books Jackson and Teddy have.



10. Use the number line to add 35 + 25.

35 + 25 = ☐

11. Is the number of stars even or odd? Tell how you know.

The number of stars is _____ I know this because _____

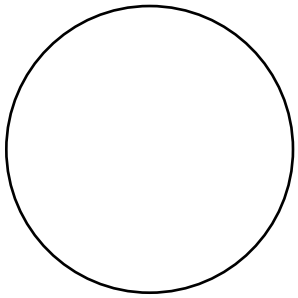
_____

_____

12. Use the number line to subtract 426 – 152.

426 – 152 = ☐

13. Divide the circle into quarters.



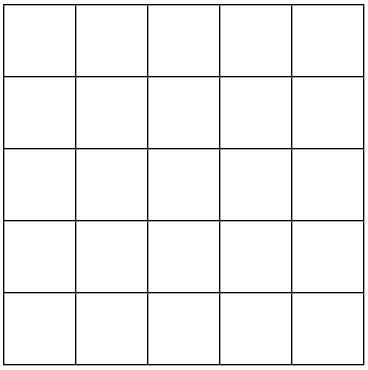
14. Solve the equation.

329 – 100 = ☐

15. Trina has a piece of fabric 3 yards long and 2 yards wide. What is the area of the fabric? Show your work on the grid.

☐ × ☐ = ☐

The area of the fabric is _____.



Unit 2:

Introduction to Division

Catapult Learning™

Paulo's Pet Shelter

Use **counters** to solve.

1. At the shelter, 2 kittens share 6 toys equally. How many toys does each kitten have?

How many toys are there? _____	How many kittens are there? _____
Complete the division equation to find the fair share: _____ ÷ _____ = _____	

Each kitten has _____ toys.

2. At the shelter, 3 puppies share 18 treats equally. How many treats does each puppy have?

How many treats are there? _____	How many puppies are there? _____
Complete the division equation to find the fair share: _____ ÷ _____ = _____	

Each puppy has _____ treats.

3. Paulo has 16 toys for 4 birds. He wants each bird to have a fair share. How many toys will each bird get?

How many toys are there? _____	How many birds are there? _____
Complete the division equation to find the fair share: _____ ÷ _____ = _____	

Each bird gets _____ toys.

Fish Tanks

Part 1: Use **counters** to model the total number of fish. Then write a division equation that shows how many fish are in each tank.

Number of goldfish: 15	Number of goldfish tanks: 3
Division equation: _____ ÷ _____ = _____	
_____ goldfish in each tank	

Number of guppies: 20	Number of guppy tanks: 5
Division equation: _____ ÷ _____ = _____	
_____ guppies in each tank	

Number of tetra fish: 18	Number of tetra fish tanks: 2
Division equation: _____ ÷ _____ = _____	
_____ tetra fish in each tank	

Number of angelfish: 35	Number of angelfish tanks: 5
Division equation: _____ ÷ _____ = _____	
_____ angelfish in each tank	

Part 2: Identify each part of the division equation below.

12 ÷ 3 = 4

Dividend: _____

Divisor: _____

Quotient: _____

Lesson 11 Exit Ticket

Part 1: Use **counters** to solve. Then write a division equation.

1. The shelter receives a donation of 24 cans of cat food. There are 4 cats in the shelter. How many cans will each cat get if they share the cans equally?

_____ ÷ _____ = _____

Each cat will get _____ cans.

2. Paulo wants to give 8 dogs a fair share of dog food. If he has 24 cans of dog food, how many cans of food are there for each dog?

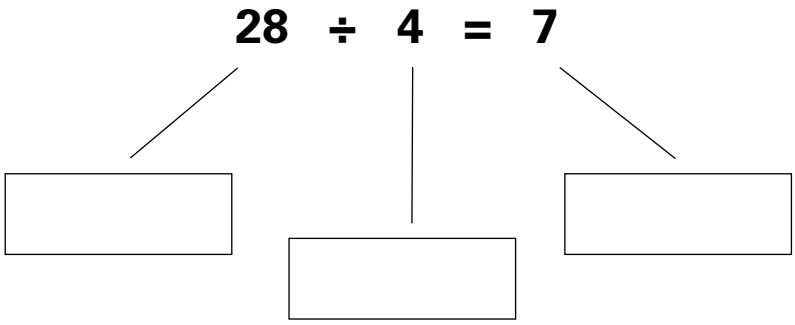
_____ ÷ _____ = _____

Each dog will get _____ cans.

Part 2: Use words from the word bank to label the equation.

3.

Word Bank		
dividend	quotient	divisor



Extra Practice: Marching Band

There are 12 people in the drum section of a marching band. Find out how many drummers can be in each row. Use **counters** to solve.

1. The drummers are in 2 equal rows. How many drummers are in each row?

How many drummers are there in all? _____	How many rows are they in? _____

Complete the division equation to find how many drummers are in each row.

_____ ÷ _____ = _____

There are _____ drummers in each row.

2. The drummers are now in 6 equal rows. How many drummers are in each row?

How many drummers are there in all? _____	How many rows are they in? _____

Complete the division equation to find how many drummers are in each row.

_____ ÷ _____ = _____

There are _____ drummers in each row.

3. How are the two problems the same? How are they different? Use the terms *dividend, divisor,* and *quotient* to explain your ideas.

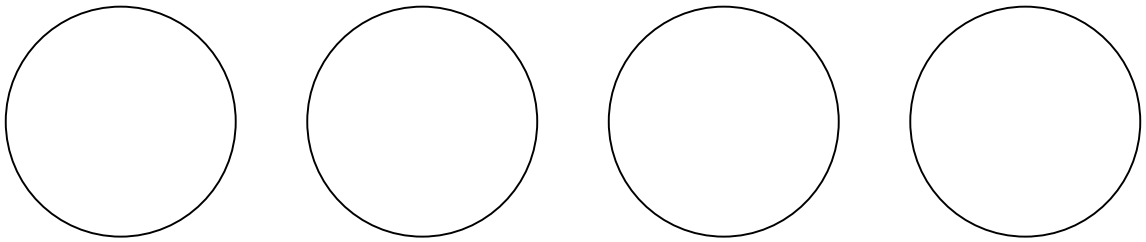
_____

_____

The Epic Picnic

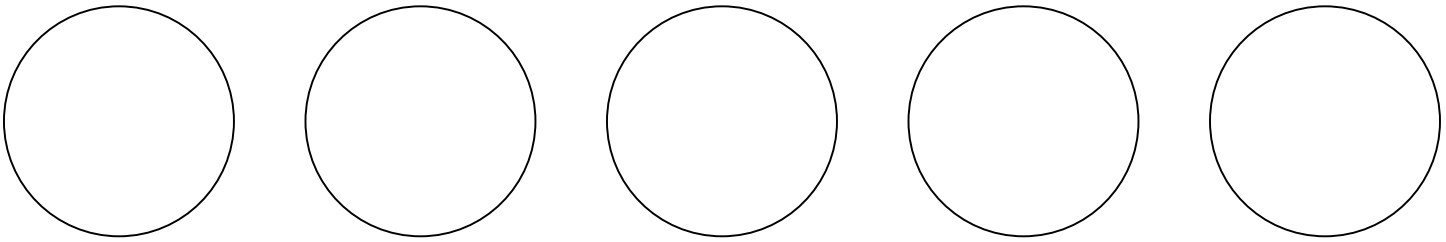
Draw a set model and write a division equation to solve each problem.

1. A group of 4 friends has 12 carrot sticks that they are going to share equally. How many carrot sticks will each friend get?



_____ ÷ _____ = _____	Each friend will get _____ carrot sticks.

2. A group of 5 friends has 20 grapes that they are going to share equally. How many grapes will each friend get?



_____ ÷ _____ = _____	Each friend will get _____ grapes.

3. A group of 3 friends has 6 juice boxes that they are going to share equally. How many juice boxes will each friend get?

_____ ÷ _____ = _____	Each friend will get _____ juice boxes.

Picnic Plates

Review the example problem. Then draw an **array**, answer the questions, and write an equation for each problem.

Example

Hugo brings **2** plates. There are **4** sandwiches. He puts the same number of sandwiches on each plate.

Step 1	Step 2	Step 3	Step 4
Find the number of groups and total objects. **2** plates = **2** groups **4** sandwiches = **4** total objects	Draw a row for each of the **2** plates. Plate 1 ● Plate 2 ●	Add a column for each group, until you share all 4 dots. Plate 1 ● ● Plate 2 ● ●	Count the columns to know how many sandwiches on each plate. **4** ÷ **2** = 2 Each plate will get 2 sandwiches.

1. Cassie brings 4 plates. There are 16 watermelon slices. She puts the same number of watermelon slices on each plate.

What represents the groups?	What represents the total number of objects?
4 plates 16 watermelons	4 plates 16 watermelons
_____ ÷ _____ = _____	Each plate will get _____ slices.

2. There are 15 crackers. Li brings 3 plates. He puts the same number of crackers on each plate.

What represents the groups?	What represents the total number of objects?
3 plates 15 crackers	3 plates 15 crackers
_____ ÷ _____ = _____	Each plate will get _____crackers.

Lesson 12: Exit Ticket

Draw an array or set model to solve.

1. A package of raisins has 15 small boxes. If all 5 friends at the picnic share the boxes equally, how many boxes does each friend get?

a. Draw a picture to represent the equal groups of boxes.

b. Write the division equation.

_____ ÷ _____ = _____

Each friend gets _____ boxes.

2. There are 12 muffins in a dozen. If 3 friends at the picnic share a dozen muffins equally, how many muffins does each friend get?

a. Draw a picture to represent the equal groups of muffins.

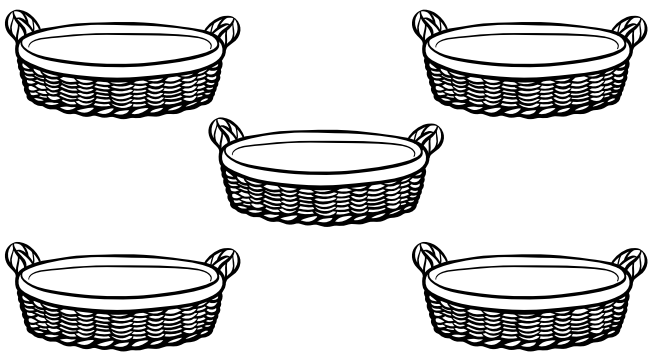
b. _____ ÷ _____ = _____

Each friend gets _____ muffins.

Extra Practice: Strawberry Picking

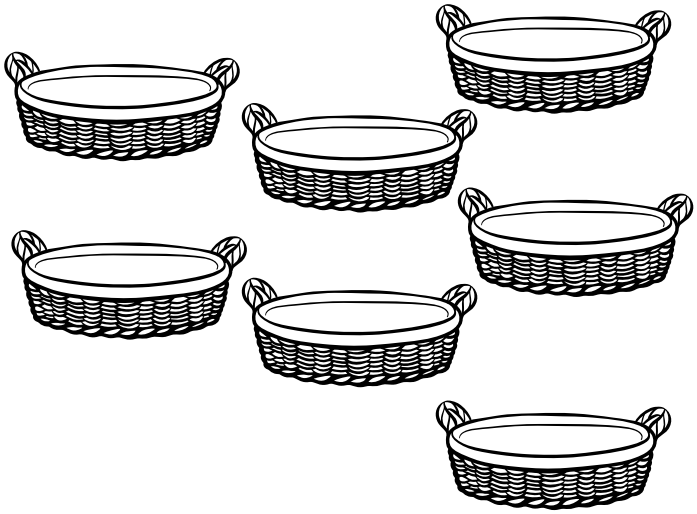
Draw the strawberries in the baskets to show how to share them equally.
Write an equation to match the picture.

15 strawberries



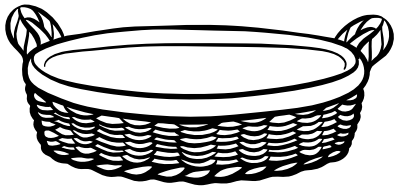
_____ ÷ _____ = _____

14 strawberries



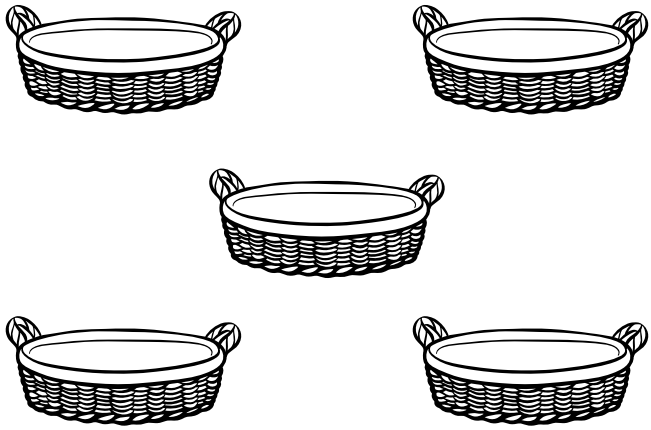
_____ ÷ _____ = _____

5 strawberries



_____ ÷ _____ = _____

20 strawberries



_____ ÷ _____ = _____

Bake Sale Bonanza

Part 1: Use **counters** to make groups and solve. Fill in the answers and complete the equations.

1. Tom bakes 12 banana muffins. He can put 3 muffins in each box.

How many total muffins does Tom have? _____	How many muffins can go in a box? _____	How many boxes does Tom need? _____
_____ ÷ _____ = _____		

2. Nora bakes 21 cookies. She can put 7 cookies in each tin.

How many total cookies does Nora have? _____	How many cookies can go in a tin? _____	How many tins does Nora need? _____
_____ ÷ _____ = _____		

Part 2: Use repeated subtraction to solve. Fill in the answers and complete the equation.

3. Jenny bakes 20 cupcakes. She will display 4 cupcakes on each shelf.

Show how you can use repeated subtraction to solve. 20 – _____ = _____ _____ – _____ = _____ _____ – _____ = _____ _____ – _____ = _____ _____ – _____ = _____ I subtracted _____ times.	How many cupcakes are in 1 group?
	How many groups did you make?
	_____ ÷ _____ = _____

Brownie Bites

Use repeated subtraction and division to help Maya sort her brownie bites into bags. Use **counters** to help.

1. Maya bakes 24 double-chocolate brownie bites. She puts 6 brownies in each bag.

Repeated subtraction:

1	_____ - _____ = _____
2	_____ - _____ = _____
3	_____ - _____ = _____
4	_____ - _____ = _____

Division:

_____ ÷ _____ = _____

Maya needs _____ bags for her double-chocolate brownies.

2. Maya bakes 10 toffee brownie bites. She puts 5 brownies in each bag.

Repeated subtraction:

1	_____ - _____ = _____
2	_____ - _____ = _____
3	_____ - _____ = _____
4	_____ - _____ = _____

Division:

_____ ÷ _____ = _____

Maya needs _____ bags for her toffee brownies.

3. Maya bakes 9 peanut butter brownie bites. She puts 3 brownies in each bag.

Repeated subtraction:

1	_____ - _____ = _____
2	_____ - _____ = _____
3	_____ - _____ = _____
4	_____ - _____ = _____

Division:

_____ ÷ _____ = _____

Maya needs _____ bags for her peanut butter brownies.

Lesson 13 Exit Ticket

Part 1: Use **counters** to make groups and solve. Fill in the answers and complete the equations.

1. Wes brings cranberry juice to give to customers at the bake sale. He fills 28 cups of juice. He can put 4 cups on each tray.

How many total cups does Wes have? _____	How many cups can go on a tray? _____	How many trays does Wes need? _____
_____ ÷ _____ = _____		

2. Gary brings 42 napkins to the bake sale. He places 7 napkins on each table.

How many total napkins does Gary have? _____	How many napkins go on each table? _____	How many tables does Gary put napkins on?____
_____ ÷ _____ = _____		

Part 2: Use repeated subtraction and division to show how to divide the chairs. Use **counters** to help.

3. Paula and her mom bring 14 chairs to the bake sale. They put 2 chairs at each table. How many tables are there?

Repeated subtraction:

1	_____ – _____ = _____
2	_____ – _____ = _____
3	_____ – _____ = _____
4	_____ – _____ = _____
5	_____ – _____ = _____
6	_____ – _____ = _____
7	_____ – _____ = _____

Division:

_____ ÷ _____ = _____

Paula and her mom put 2 chairs at _____ tables.

Extra Practice: Healthy Snacks

Use repeated subtraction and division to solve. Use **counters** to help.

1. Mari has 8 bagels on plates. There are 2 bagels on each plate. How many plates are there?

How many bagels are in each group? _____	How can you use repeated subtraction to solve?
What is the division equation? _____ ÷ _____ = _____	
How many plates are there? _____	

2. Tina has 27 apples on plates. There are 9 apples on each plate. How many plates are there?

How many apples are in each group? _____	How can you use repeated subtraction to solve?
What is the division equation? _____ ÷ _____ = _____	
How many plates are there? _____	

3. Nicolas has 15 celery sticks for his friends. Each friend will get 3 celery sticks. How many friends will get celery sticks?

How many celery sticks are in each group? _____	How can you use repeated subtraction to solve?
What is the division equation? _____ ÷ _____ = _____	
How many friends will get celery sticks? _____	

Flower Power

Part 1: Use a number line to solve.

1. Flora has 16 yellow roses. She wants to put 4 roses in each vase. How many vases does she need?

_____ ÷ _____ = _____ Flora needs _____ vases.

Part 2: Draw a set model to solve.

2. Flora has 21 vases. She can fit 3 vases in each box.

Draw dots to show the vases. Circle a group for each box

How many boxes does Flora need?

_____ ÷ _____ = _____ Flora needs _____ boxes.

3. Flora can fit 5 buckets of flowers in each cooler. She has 15 buckets of flowers.

Draw dots to show the buckets. Circle a group for each cooler.

How many coolers does Flora need?

_____ ÷ _____ = _____ Flora needs _____ coolers.

The Loyal Customer

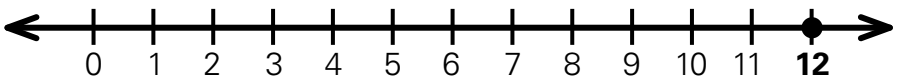
Review the example problem. Then use a **number line** to solve.

Example

Joyce wants to buy all of Flora's flowers. Flora has **12** tulips. She puts **3** tulips in each bunch. How many bunches will Joyce buy?

Step 1

Plot the total number of objects on the number line: **12** total tulips.

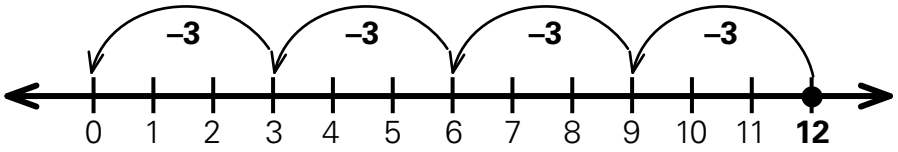


Step 2

Find how many objects in each group: **3** tulips in each bunch.

Step 3

Subtract groups until you reach 0. Label each jump.



Step 4

Find the number of groups: 4 jumps = 4 groups. Write a division equation: **12** ÷ **3** = 4.

Joyce will buy 4 bunches of tulips.

1. Flora has 32 carnations. Each bunch has 8 carnations. How many bunches will Joyce buy?

_____ ÷ _____ = _____ Joyce will buy _____ bunches.

2. Flora has 28 daisies. Each bunch has 4 daisies. How many bunches will Joyce buy?

_____ ÷ _____ = _____ Joyce will buy _____ bunches.

3. Flora has 64 lilies. Each bunch has 8 lilies. How many bunches will Joyce buy?

_____ ÷ _____ = _____ Joyce will buy _____ bunches.

Lesson 14 Exit Ticket

Part 1: Draw a set model to solve.

1. 1. Flora has 18 red roses. She puts 6 roses in each vase.

Draw dots to show the roses. Circle a group for each vase.

How many vases does Flora need?

_____ ÷ _____ = _____ Flora needs _____ vases.

Part 2: Use the number lines to solve.

2. Tomás ordered 24 vases of flowers to put on long tables. He puts 3 vases on each table. How many tables does Tomás have?

_____ ÷ _____ = _____ Tomás has _____ tables.

3. Abigail gets 8 lilies from Flower Power. She gives 1 lily to each of her grandchildren. How many grandchildren does Abigail have?

_____ ÷ _____ = _____ Abigail has _____ grandchildren.

Extra Practice: Make Models

Find out how many display cases Tanner needs for each type of model car. Draw a picture of each display case.

Number of Cars

Car	Number of Cars	Number in Each Display Case	Number of Display Cases
Sports Car	16	8	
Pickup Truck	9	3	
Race Car	20	5	
Van	12	2	

Open Number Lines

Open Number Lines

School Store

Part 1: Use **counters** to model the problem with an array. Then write the multiplication and division equations the array shows.

1. The school store has 5 boxes of pencils. Each box has 6 pencils. The store has a total of 30 pencils.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

2. The school store has 4 boxes of pencil grips. Each box has 8 pencil grips. The store has a total of 32 pencil grips.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

Part 2: Use **counters** to model the problem with an array. Then describe the array.

3. $45 \div 9 = 5$

The array has _____ rows and _____ columns. It has _____ total counters.

4. $7 \times 7 = 49$

The array has _____ rows and _____ columns. It has _____ total counters.

New Items!

Part 1: Use **counters** to model the problem with an array. Then write the multiplication and division equations the array shows.

1. The school store has just received a shipment of tablet covers! There are 7 boxes of tablet covers. Each box has 8 covers. The store received a total of 56 tablet covers.

My array has _____rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

2. The school store also received a shipment of posters! There are 6 poster designs. The store ordered 10 posters of each design. The store received a total of 60 posters.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

Part 2: Use **counters** to model the equation with an array. Then describe the array.

3. $6 \times 3 = 18$

The array has _____ rows and _____ columns. It has _____ total counters.

4. $14 \div 2 = 7$

The array has _____ rows and _____ columns. It has _____ total counters.

Lesson 15 Exit Ticket

Use **counters** to model the problem with an array. Then write the multiplication and division equations that the array shows.

1. The school store has 3 boxes of skateboards. Each box has 4 skateboards. The store has a total of 12 skateboards.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

2. The school store has 9 boxes of notebooks. Each box has 8 notebooks. The store has a total of 72 notebooks.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

3. The school store has 5 boxes of headphones. Each box has 4 headphones. The store has a total of 20 headphones.

My array has _____ rows and _____ columns. There are a total of _____ counters in the array.

Multiplication equations:

_____

_____

Division equations:

_____

_____

Extra Practice: Gallery Walls

Read the description of each wall in a gallery. Then use **counters** to model the problem. Write the equations the array shows.

Wall One

28 paintings 4 groups 7 paintings in each group

_____ × _____ = _____ _____ ÷ _____ = _____

_____ × _____ = _____ _____ ÷ _____ = _____

Wall Two

45 paintings 5 groups 9 paintings in each group

_____ × _____ = _____ _____ ÷ _____ = _____

_____ × _____ = _____ _____ ÷ _____ = _____

Wall Three

56 paintings 7 groups 8 paintings in each group

_____ × _____ = _____ _____ ÷ _____ = _____

_____ × _____ = _____ _____ ÷ _____ = _____

Wall Four

72 paintings 8 groups 9 paintings in each group

_____ × _____ = _____ _____ ÷ _____ = _____

_____ × _____ = _____ _____ ÷ _____ = _____

Tennis Teams

Part 1: Draw an array to model each problem.

1. There are 10 players in tennis club. The players split into teams of 2 for practice. How many teams are there?

$2 \times$ _____ $= 10$ _____ $\div 2 =$ _____

Tennis club has _____ teams.

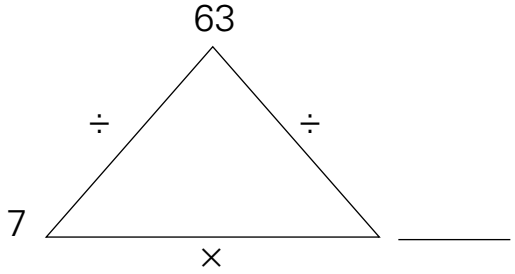
2. On Monday, 6 tennis players go to practice. Each player is given 4 tennis balls. How many tennis balls are there?

$6 \times 4 =$ _____ _____ $\div 4 =$ _____

There are _____ tennis balls.

Part 2: Complete the number triangle. Then, write the equations in the fact family it models.

3.



_____ × _____ = _____

_____ × _____ = _____

_____ ÷ _____ = _____

_____ ÷ _____ = _____

Tennis Tournament

Review the example problem. Then use a **number triangle** to solve and write a related multiplication and division equation.

Example

I need **27** tennis balls for a tournament. Each can has **3** tennis balls. How many cans do I need?

Step 1

Find out what you know and don't know.

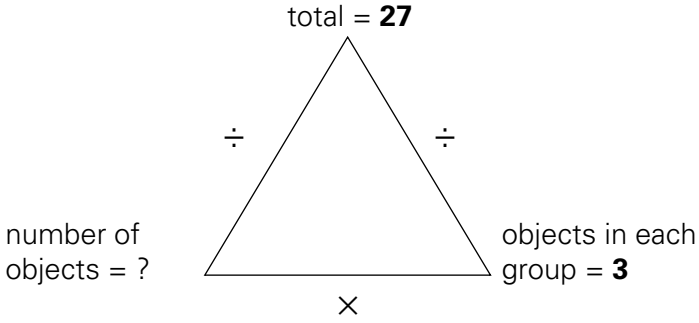
I need **27** tennis balls. **27** is the **total** number of objects.

Each can has **3** tennis balls. **3** is the number of **objects in each group**.

I don't know how many cans. The number of cans is the number of groups.

Step 2

Complete the number triangle. Then write an equation.



27 ÷ **3** = ?

Step 3

Write a related fact to find the missing number. **3** × 9 = **27** **27** ÷ **3** = 9

1. If 30 teams are divided into 6 equal groups, how many teams are in each group?

_____ ÷ _____ = _____ _____ × _____ = _____

There are _____ teams in each group.

2. If there are 8 courts and 4 players on each court, how many players are there?

_____ × _____ = _____ _____ ÷ _____ = _____

There are _____ players.

3. If there are 4 rows of fans and 10 fans in each row, how many fans are there?

_____ × _____ = _____ _____ ÷ _____ = _____

There are _____ fans.

Lesson 16 Exit Ticket

Part 1: Draw an array to model the problem.

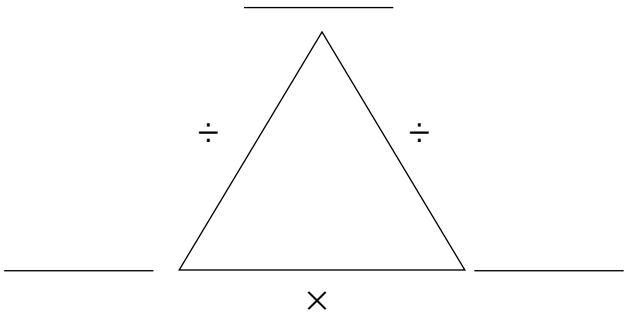
1. There are 28 kids waiting to play volleyball. Each team will have 7 players. How many teams can there be?

7 × _____ = 28 _____ ÷ 7 = _____

There can be _____ teams.

Part 2: Use a number triangle to solve and write a related division and multiplication equation.

2. The volleyball tournament takes place over 6 days. A total of 48 games must be played. If each day has the same number of games, how many games should be played each day?



_____ × _____ = _____ _____ ÷ _____ = _____

_____ games should be played each day.

Extra Practice: Clearing Stars

Ravi plays a game that shows shapes in rows and columns. He must match shapes to clear them. Complete the array for each level. Answer the questions.

1. In Level 1, there are 5 rows. Ravi has to clear 50 stars to win Level 1.

★
★
★
★
★

a. How many stars are in each row? _____

b. Write two equations that can help you solve.

_____ × _____ = _____ _____ ÷ _____ = _____

2. In Level 2, there are 8 columns. Ravi has to clear 48 hearts to win Level 2.

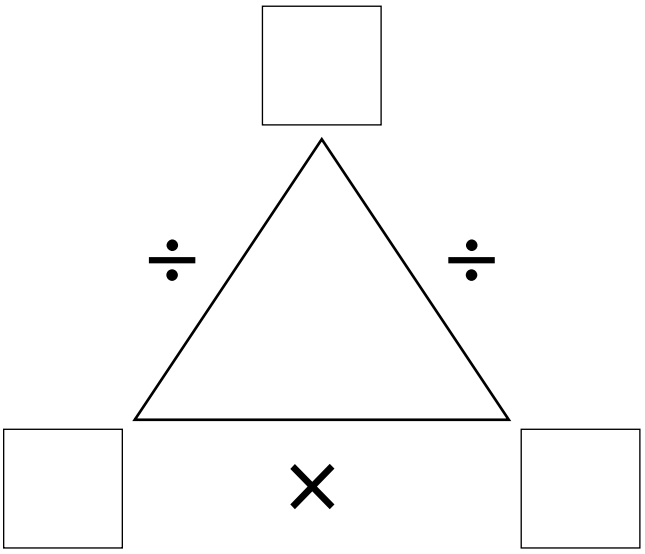
♥ ♥ ♥ ♥ ♥ ♥ ♥ ♥

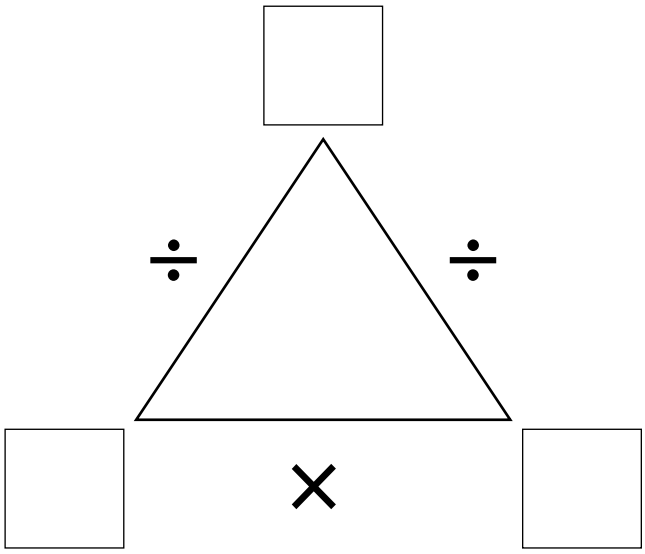
a. How many rows of hearts are there? _____

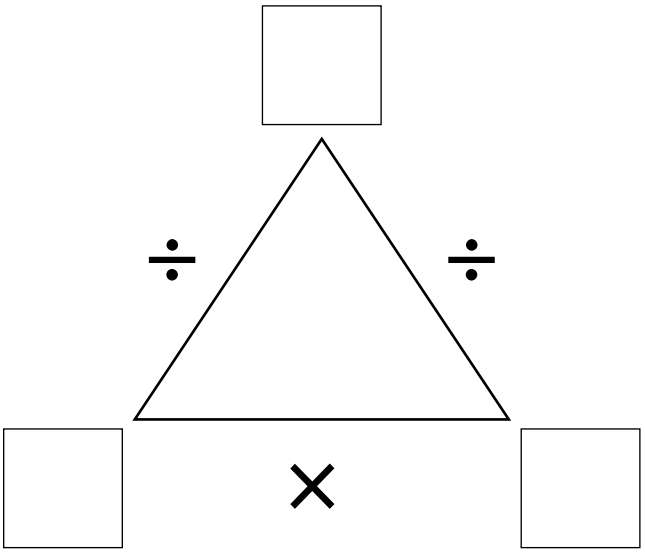
b. Write two equations that can help you solve.

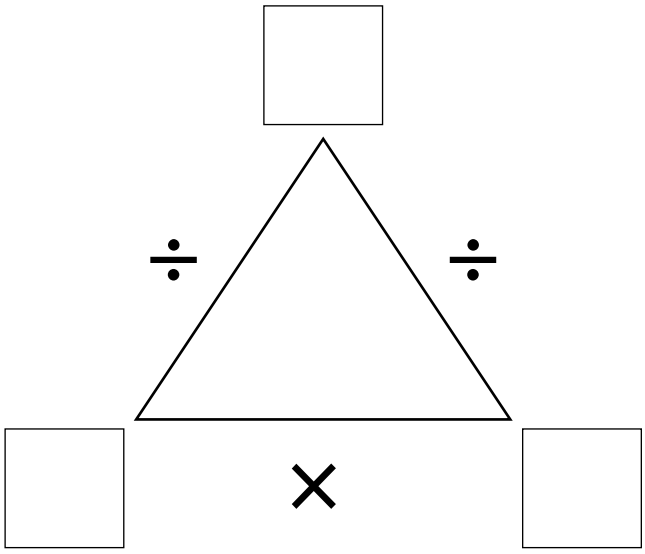
_____ × _____ = _____ _____ ÷ _____ = _____

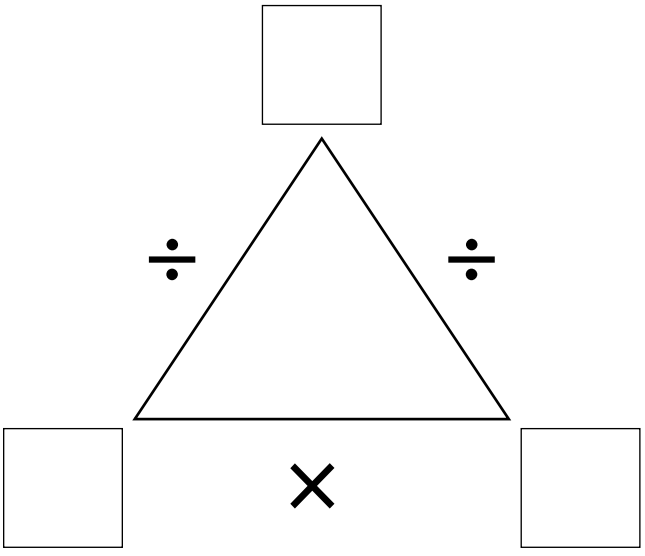
Number Triangles

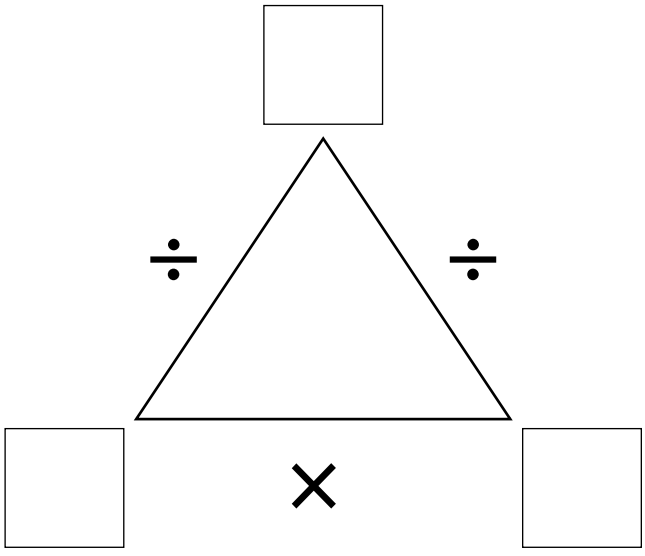












Crazy Cones

Read the problem, then answer the questions and write equations to solve. Use a variable in your equations.

1. Crazy Cones gave away some free chocolate sundaes. Each sundae has 4 scoops of ice cream. They gave away 32 free scoops of ice cream. How many sundaes did Crazy Cones give away?

The total is _____.	The number of objects in each group is _____.	The number of groups is _____.
What division equation models the problem? _____ ÷ _____ = _____		What is a related multiplication equation? _____ × _____ = _____
What number makes both equations true? _____		Crazy Cones gave away _____ sundaes.

2. Crazy Cones gave away 7 cookie crumble shakes. They waited the same number of minutes before giving out each shake. They spent a total of 28 minutes giving out shakes. How often did they give away a shake?

The total is _____.	The number of objects in each group is _____.	The number of groups is _____.
What division equation models the problem? _____ ÷ _____ = _____		What is a related multiplication equation? _____ × _____ = _____
What number makes both equations true? _____		Crazy Cones gave away a shake every _____ minutes.

Summer Sensation

Review the example problem. Write two related equations that can help you solve the problem. Use a variable in your equations.

Example

During the summer, Crazy Cones has a special flavor called Summer Sensation. Crazy Cones sells **6** tubs of Summer Sensation each week. By the end of the season, they sell **60** tubs. How many weeks do they sell Summer Sensation?

Step 1	Step 2	Step 3	Step 4
Determine what you know and do not know. The total is **60** tubs. The number of objects in each group is **6**. I need to find out the number of groups, or weeks.	Write a division equation. Use a variable to stand for the unknown number. **60** ÷ **6** = w	Write a related multiplication equation. **6** × w = **60**	Find the number that makes both equations true. **60** ÷ **6** = 10 **6** × 10 = **60** Summer Sensation is sold for 10 weeks.

1. Each week, Crazy Cones sells 6 tubs of Summer Sensation. On Saturday, a shipment of 24 tubs is delivered. How many weeks will the tubs last?

Division Equation: _____ ÷ _____ = _____

Related Multiplication Equation: _____ × _____ = _____

The tubs of Summer Sensation will last _____ weeks.

2. Crazy Cones gives away a free Summer Sensation ice-cream sandwich every 5 minutes. They give away 6 ice-cream sandwiches in total. For how many minutes did they give away free ice-cream sandwiches?

Related Multiplication Equation: _____ × _____ = _____

Division Equation: _____ ÷ _____ = _____

Crazy Cones gives away free ice-cream sandwiches for _____ minutes.

Lesson 17 Exit Ticket

Write two related equations that can help you solve the problem. Use a variable in your equation.

1. Crazy Cones sells 3 tubs of vanilla ice cream each week. They receive a delivery of 21 tubs of vanilla ice cream. How long will the containers last?

_____ × _____ = _____ _____ ÷ _____ = _____

The tubs will last _____ weeks.

2. Crazy Cones sells 4 tubs of chocolate ice cream each week. How many tubs of chocolate ice cream do they need to order to last 6 weeks?

_____ × _____ = _____ _____ ÷ _____ = _____

They need to order _____ tubs.

3. Crazy Cones had 54 customers yesterday. They were open for 9 hours. They had the same number of customers each hour. How many customers did they have each hour?

_____ × _____ = _____ _____ ÷ _____ = _____

They had _____ customers each hour.

Extra Practice: Rock Climbing Lessons

Avery's Gym offers packs of rock-climbing lessons. Answer the questions. Then complete the table with the correct information about each pack.

1. How many lessons can you take for $30 if each lesson costs $10? Using the variable *p*, write two equations that show how you can find out.

_____ × _____ = _____ _____ ÷ _____ = _____

You can take _____ lessons for 30 dollars.

2. How much does each lesson cost if you take 8 lessons and the total cost is $64? Using the variable *p*, write two equations that show how you can find out.

_____ × _____ = _____ _____ ÷ _____ = _____

It costs _____ per lesson to take 8 lessons.

3. How much will you spend in total on 9 lessons if each lesson costs $7? Using the variable *p*, write two equations that show how you can find out.

_____ × _____ = _____ _____ ÷ _____ = _____

You will spend _____ on 9 lessons.

Number of Lessons	Price of Each Lesson	Total Price of Pack
_____	$10	$30
5	_____	$45
6	$9	_____
8	_____	$64
9	$7	_____
_____	$6	$60

Cultural Picnic

Read the problem. Write an equation with a variable that can be used to represent the problem. Choose your tools and strategies. Show your work.

1. There are 8 plates of empanadas. Each plate has 9 empanadas. How many empanadas are there?

Equation: _____

There are _____ empanadas.

2. There are 4 flags displayed on each table in the hallway. The hallway has 5 tables. How many flags are there in all?

Equation: _____

There are _____ flags.

3. There are 36 dioramas on display at the cultural picnic. Each table has 4 dioramas. How many tables are there?

Equation: _____

There are _____ tables.

4. Emily makes dolmas for the picnic. She needs 3 raisins for each dolma. If she has 30 raisins, how many dolmas can Emily make?

Equation: _____

Emily can make _____ dolmas.

Picnic Seating

Read the problem. Write an equation with a variable that can be used to represent the problem. Choose your tools and strategies. Show your work.

1. There are 40 people that sit at 5 tables, with the same number of people at each table. How many people are at each table?

Equation: _____

There are _____ people at each table.

2. There are 8 tables, with 6 people eating at each table. How many people are eating?

Equation: _____

_____ people are eating.

3. There are 42 people that need seats. Each table can seat 6 people. How many tables are needed?

Equation: _____

_____ tables are needed.

4. There are 6 boxes of napkins. Each box has 6 napkins. How many napkins are there?

Equation: _____

There are _____ napkins

Lesson 18 Exit Ticket

Read the problem. Describe the strategy you will use to solve. Then write a multiplication or division equation with a variable.

1. Nicole bakes 5 pitas each day. How many days will it take Nicole to bake 35 pitas?

My Strategy:

_____

_____

_____

Equation: _____

It will take Nicole _____ days to bake 35 pitas.

2. Leo is making signs to advertise for the cultural fair. He completes 4 signs each day. How many signs will Leo complete after 8 days?

My Strategy:

_____

_____

_____

Equation: _____

Leo will complete _____ signs in 8 days.

Extra Practice: Art Materials

Read the problem. Choose your tools and strategies for solving. Show your work.

1. James has 5 painting trays. Each tray has 8 sections. If James puts a different color in each section, how many colors can he have?

My work:

James can have _____ different colors.

2. Chamique has 54 crayons. She places the crayons in rows of 6. How many crayons are in each row?

My work:

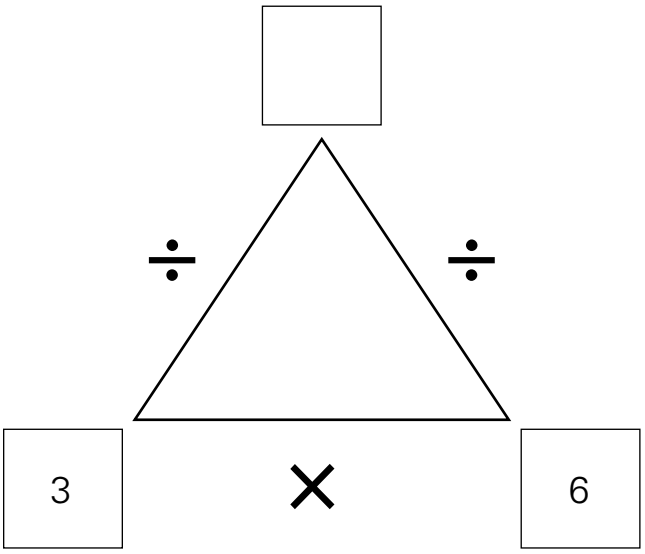
Chamique has _____ crayons in each row.

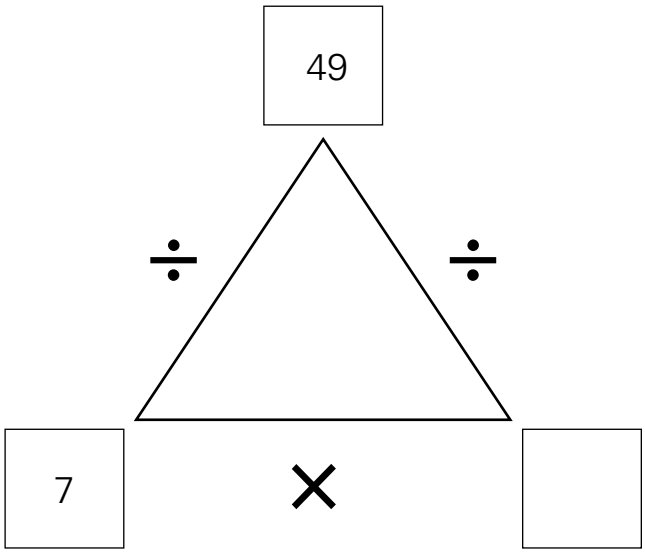
3. Terrance has 49 pencils that he uses for drawing. He has 7 jars that each contains an equal number of pencils. How many pencils are in each jar?

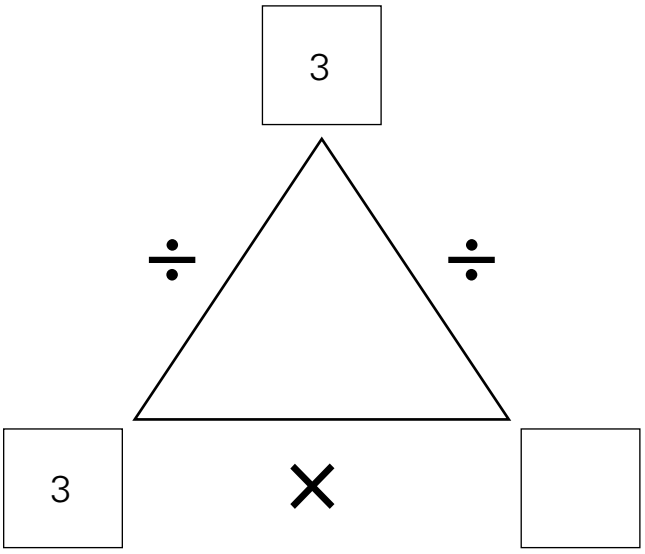
My work:

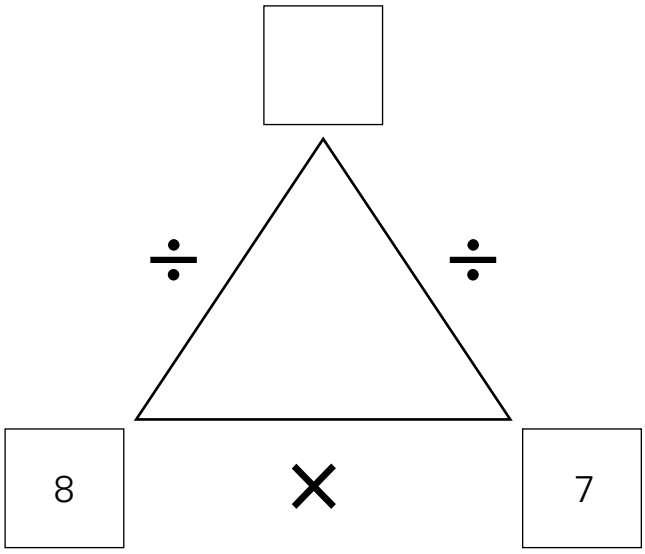
Terrance has _____ pencils in each jar.

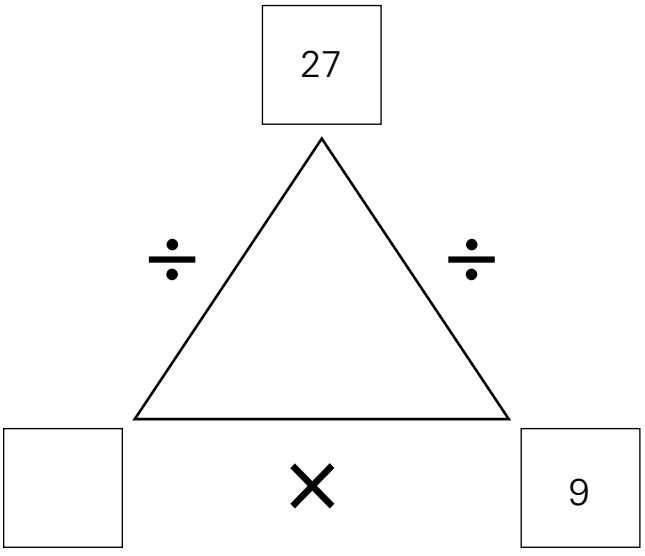
Number Triangles

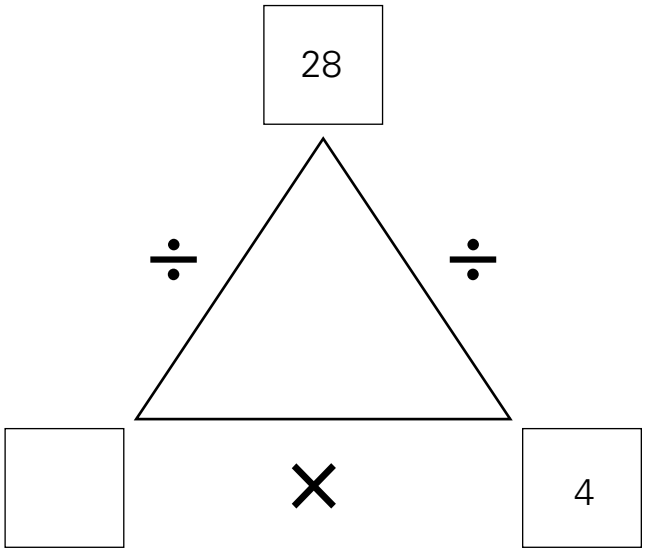












Assessment

Unit 2 Assessment

Read the problem and answer questions 1 and 2.

At school, 4 friends share 20 erasers equally. How many erasers will each friend get?

1. Draw a picture to solve.

2. Write a division equation that models the problem:

_____ ÷ _____ = _____

Each friend will get _____ erasers.

3. Suzy has 24 goldfish. Each fish tank has 8 goldfish. How many fish tanks are there? Use the number line to show your work.

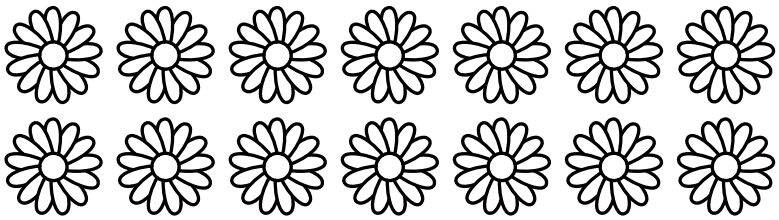
There are _____ fish tanks.

4. Jake has 21 balls. He puts 7 balls in each basket. How many baskets does Jake have? Write a division equation to solve the problem.

_____ ÷ _____ = _____

Jake has _____ baskets.

5. Write the fact family represented by the array:



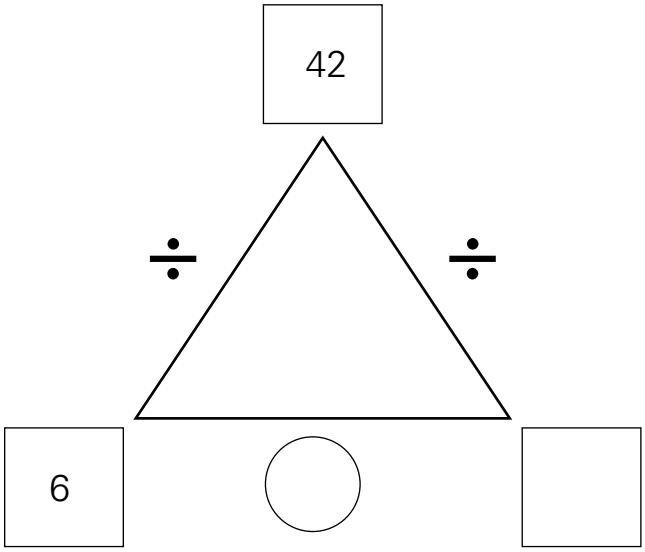
_____ × _____ = _____

_____ × _____ = _____

_____ ÷ _____ = _____

_____ ÷ _____ = _____

6. Complete the number triangle.



Read the problem and answer questions 7 and 8.

Meg, Olivia, and Gavin each have the same number of pets. They have 9 pets in all. How many pets does each friend have?

7. Write a division equation to represent the problem. Use *p* to represent the unknown number.

_____

8. Write a related multiplication equation to help you find out how many pets each friend has.

_____

Each friend has _____ pets.

9. A photo album has 6 photos on each page. The album has 8 pages. How many photos are there in all? Use numbers or drawings to show your work.

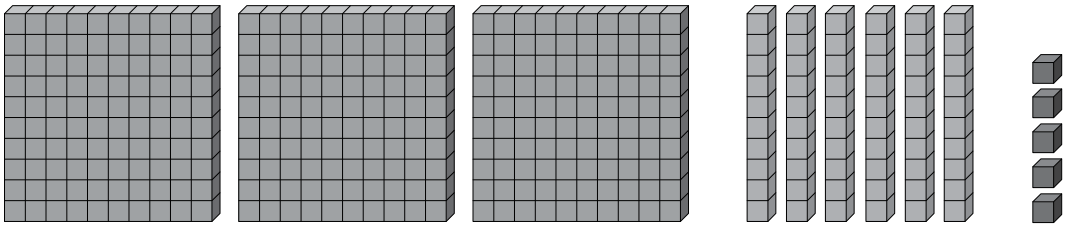
There are _____ photos in all.

10. Noah picks 40 peaches. He puts 5 peaches in each basket. How many baskets does Noah fill? Show your work.

Noah fills _____ baskets.

Unit 2 Cumulative Review

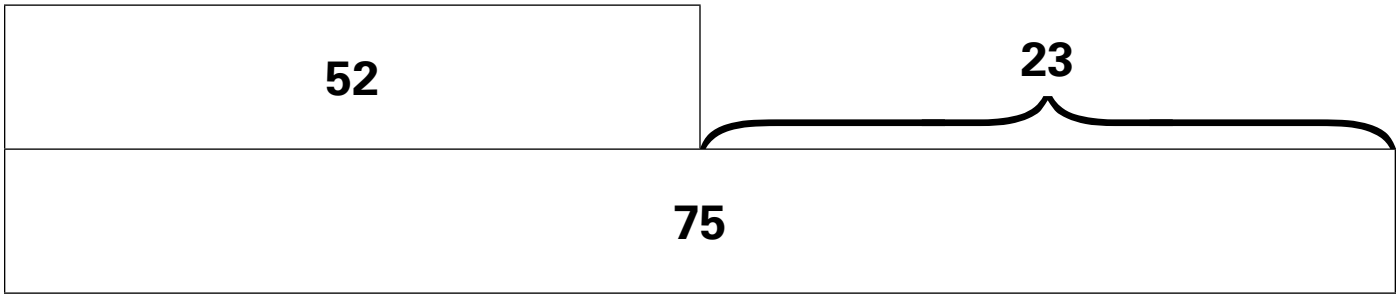
1. Cross out hundreds, tens, and ones to subtract 144.



365 – 144 = _____

2. Find the difference. 58 – 32 = _____

3. Use the tape diagram to complete the sentences.

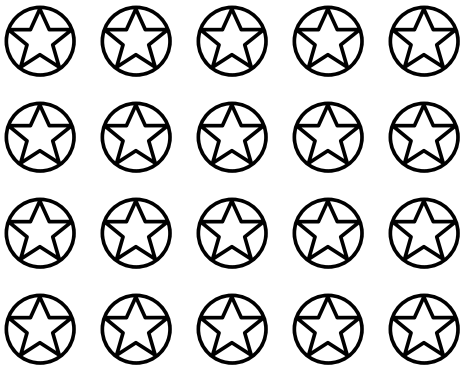


There are _____ cats at the shelter.

There are _____ fewer dogs than cats.

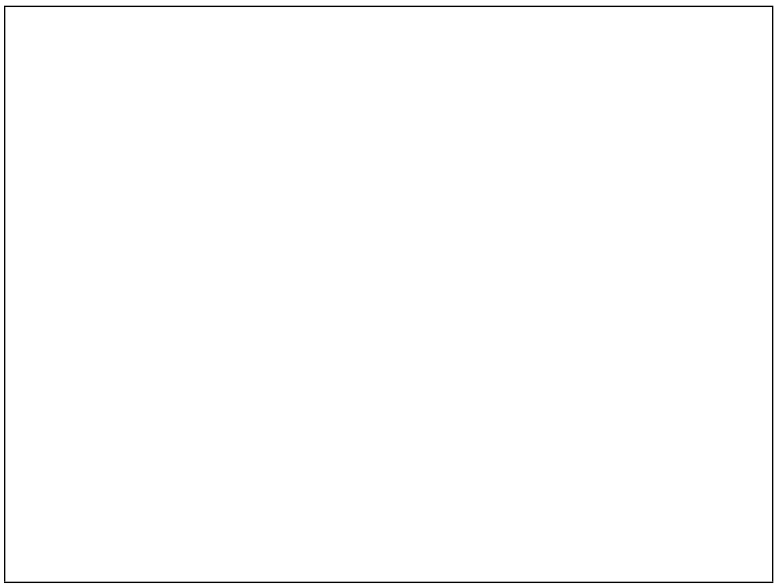
There are _____ dogs at the shelter.

4. Add to find the total.



_____ + _____ + _____ + _____ = _____

5. Fill the rectangle below with square tiles to find the area.



_____ × _____ = _____

The area is _____.

6. Add. 28 + 16 + 24 = _____

7. There are 18 students in Ms. Shea's art class. The class is divided into 3 equal groups. How many students are in each group? Draw a picture to help you solve the problem.

There are _____ students in each group.

8. Each chicken lays 2 eggs. There are 8 chickens. How many eggs are there? Draw a model to help you solve the problem.

_____ × _____ = _____

There are _____ eggs.

9. Add 234 + 547. Use partial sums.

234 = _____ + _____ + _____

+ 547 = _____ + _____ + _____

_____ + _____ + _____ = _____

10. Subtract using the constant differences strategy.

400 – 138 = 399 – _____ = _____

So, 400 – 138 = _____

11. There are 25 boys and 44 girls at soccer camp. All together, there are 69 kids at soccer camp. Label the tape diagram to model the story.

12. Complete the number triangle and equations to show the fact family.

Multiplication equations:

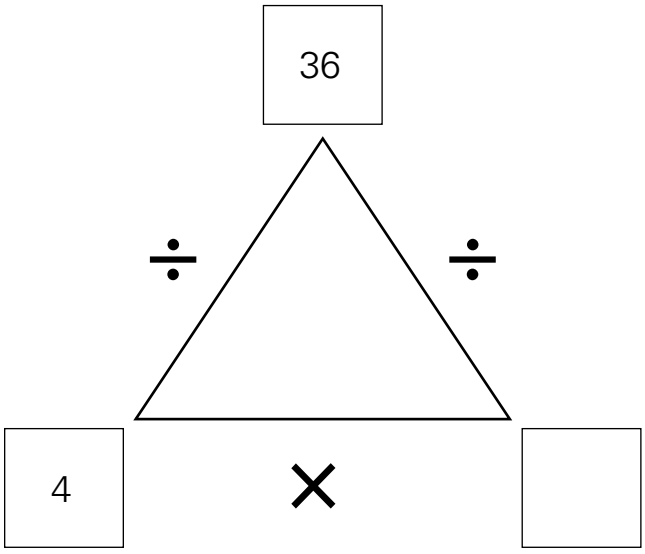
_____

_____

Division equations:

_____

_____



13. Is 19 an even or odd number?

19 is an _____ number.

14. Ann bikes 50 miles. Ben bikes 21 miles and takes a break. Then Ben bikes 14 more miles. Who bikes farther? How much farther?

Show your work.

_____ bikes _____ miles more.

15. Find the difference. 62 – 18 = _____

Unit 3:

Multiplication and Division Problem Solving

Catapult Learning™

Dev's Lemonade Stand

Use **counters** and **cups** to model the problems. Then write an equation and answer the questions.

1. Dev sells 6 cups of lemonade. Each cup has 8 ice cubes. How many ice cubes did Dev use?

_____ × _____ = _____ Dev uses _____ ice cubes.

Is your answer reasonable? yes / no

2. Dev has 3 large bowls of lemons. Each bowl has 6 lemons in it. How many lemons are there?

_____ × _____ = _____ There are _____ lemons.

Is your answer reasonable? yes / no

3. Dev needs 8 lemons to make a pitcher of lemonade. He wants to make 9 pitchers of lemonade. How many lemons does he need?

_____ × _____ = _____ Dev needs _____ lemons.

Is your answer reasonable? yes / no

4. Dev puts 4 slices of lemon in each pitcher of lemonade. If he makes 9 pitchers of lemonade, how many lemon slices does he need?

_____ × _____ = _____ Dev needs _____ lemon slices.

Is your answer reasonable? yes / no

Bella's Bracelets

Use **counters** to model the problems. Then write an equation and answer the questions.

1. Bella makes 8 bracelets for each of her friends. How many bracelets should she make for 5 friends?

_____ × _____ = _____ Bella should make _____ bracelets.

How can you tell if your answer is reasonable?

_____

_____

_____

2. Each of the bracelets has 11 beads. How many beads does Bella use to make 4 bracelets?

_____ × _____ = _____ Bella uses _____ beads.

How can you tell if your answer is reasonable?

_____

_____

_____

3. Bella places the bracelets she makes into boxes. She has 7 boxes, and each box has 6 bracelets. How many bracelets did Bella make?

_____ × _____ = _____ Bella made _____ bracelets.

How can you tell if your answer is reasonable?

_____

_____

_____

Lesson 20 Exit Ticket

Use **counters** to model the problems. Then write an equation and answer the questions.

1. Every time Freddie mows Mrs. Brown's yard, she gives him 4 cookies. If Freddie mows her lawn 7 times, how many cookies will he get?

_____ × _____ = _____ Freddie will get _____ cookies.

How can you tell if your answer is reasonable?

_____

_____

_____

2. Freddie does 6 jobs. He gets $5 for each job. How much money does Freddie earn?

_____ × _____ = _____ Freddie earns _____ dollars.

How can you tell if your answer is reasonable?

_____

_____

_____

Extra Practice: Mia's Pet Service

Use **counters** to model each problem. Then use the letters that go with the products to solve the riddle.

Mia feeds Petunia 2 cans of cat food each day. How many cans of cat food does Petunia eat in a week? _____ × _____ = _____ _____ cans of cat food	S
Mia feeds her neighbor's 6 cats. Each cat eats a can of food twice each day. How many cans of cat food does Mia use in one day? _____ × _____ = _____ _____ cans of cat food	M
Mia has 4 different types of leashes for walking dogs. If she has 6 of each type of leash, how many leashes does Mia have? _____ × _____ = _____ _____ leashes	I
Mia visits 6 dogs and gives them each 3 dog treats. How many dog treats does Mia give? _____ × _____ = _____ _____ treats	W
Mia puts out 5 dog beds. Three dogs sleep on each bed. How many dogs are there? _____ × _____ = _____ _____ dogs	E
There are 8 bunnies in a cage. Mia feeds each bunny 2 carrots. How many carrots does Mia feed the bunnies? _____ × _____ = _____ _____ carrots	C

What is a cat's favorite subject in school?

_____	_____	_____	_____	_____	_____
12	15	18	14	24	16

Field Day Fun

Complete a **tape diagram** and write a multiplication equation to solve the problem. Check your answer for reasonableness.

1. Each class has 5 students in the tug-of-war. There are 6 classes. How many students will be in the tug-of-war?

_____ × _____ = _____ _____ students will be in the tug-of-war.

Is your answer reasonable? Why? _____

_____

_____

2. In the sack race, 4 teams compete. Each team has 8 students. How many students are in the sack race?

_____ × _____ = _____ _____ students are in the sack race.

Is your answer reasonable? Why? _____

_____

_____

3. There are 5 teams in the sponge toss. Each team has 7 students. How many students compete in the sponge toss?

_____ × _____ = _____ _____ students are in the sponge toss.

Is your answer reasonable? Why? _____

_____

_____

4. There are 8 teams competing in the hula-hoop ring toss game. Each team needs 6 hula-hoops. How many hula-hoops are needed for the game?

_____ × _____ = _____ _____ hula-hoops are needed.

Is your answer reasonable? Why? _____

_____

_____

Relay Races

Review the example problem. Make a **tape diagram**. Then write a multiplication equation and solve.

Example

Each team in the clothing hang-up relay has to hang up **7** shirts on a clothesline. There are **4** teams. How many shirts do they need for the race?

Step 1

Find and circle the **numbers** in the problem.

There are **7** shirts and **4** teams.

Step 2

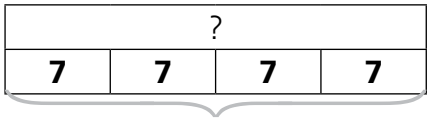
Identify the type of problem and the steps needed to solve it.

This is an equal-groups problem. I need to find how many groups and how many in each group.

4 teams = **4** groups
7 shirts = **7** in each group

Step 3

Model the problem. Make a box on the bottom tape for each group. Write how many in each group.



4 groups

Step 4

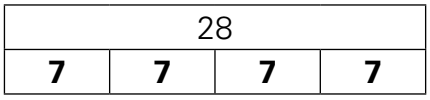
Write a multiplication **equation** to represent the problem.

4 × 7 = ?

Step 5

Complete the model and solve. Use math facts or repeated addition to find the whole.

4 × **7** = 28 They need 28 shirts for the race.



1. In the water balloon toss relay race, 8 teams compete. Each team has 3 students. How many students will compete in the water balloon toss?

Multiplication equation:	_____ students will compete in the water balloon toss.

2. In the dress-up relay race, 9 teams compete. There are 6 students on each team. How many students will compete in the dress-up relay?

Multiplication equation:	_____ students will compete in the dress-up relay.

Lesson 21 Exit Ticket

Complete the tape diagram and write a multiplication equation to solve the problem. Check your answer for reasonableness.

1. Each class will choose 4 runners to compete in the mile relay race. How many runners will be competing if 7 classes are in the race?

Solve the problem.

Multiplication equation:	_____ students will compete in the mile relay race.

Is your answer reasonable? Why?

_____

_____

2. Each team in the bucket race uses 2 buckets. If there are 9 teams, how many buckets are there?

Solve the problem.

Multiplication equation:	There are _____ buckets.

Is your answer reasonable? Why?

_____

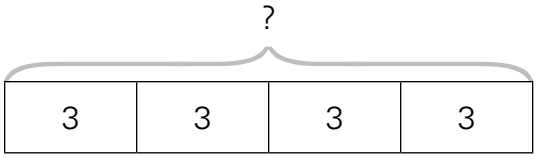
_____

Extra Practice: Obstacle Course

Draw a line to match the problem to the model that can be used to solve the problem. Then write the multiplication equation to solve the problem.

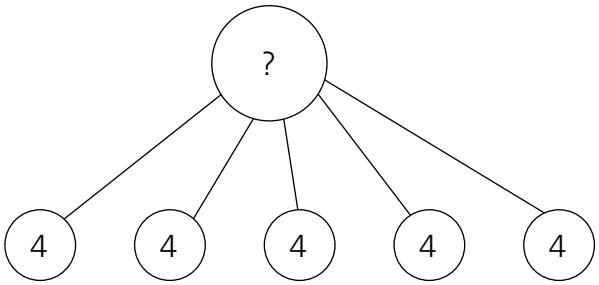
Five teams are in the obstacle course. Each team has 5 students. How many students are in the obstacle course?

Equation: _____



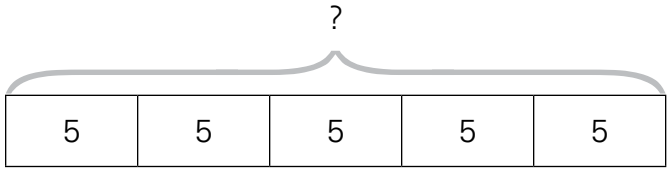
There are 5 obstacles. Students go through each obstacle 3 times. How many obstacles must be done?

Equation: _____



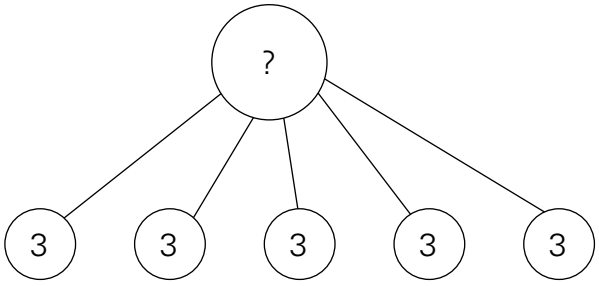
One obstacle is riding a tricycle. There are 4 tricycles. Each has 3 wheels. How many wheels are there?

Equation: _____



One obstacle is tossing 4 bean bags into a bucket. There are 5 players. How many bean bags get tossed?

Equation: _____



Tape Diagrams

Tape Diagrams

Tape Diagrams

Tape Diagrams

Recycling Day

Act out the problem with **linking cubes**. Then write an equation and answer the questions.

1. 36 people pick up plastic bottles from a park. They work in 4 equal groups. How many people are in each group?

The whole is _____ people. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ people in each group.

2. There are 5 barrels for soda cans. Ricky put the same number of cans into each barrel. If he collected 40 cans, how many cans are in each barrel?

The whole is _____ cans. There are _____ groups.

Division equation: _____÷ _____ = _____

There are _____ cans in each barrel.

3. The town has 3 trucks to collect cardboard. The town collects 12 huge boxes of cardboard. If they put the same amount of cardboard in each truck, how many boxes of cardboard are in each truck?

The whole is _____ boxes. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ boxes of cardboard in each truck.

Recycling Teams

Act out the problem with **linking cubes**. Then write an equation and answer the questions.

1. A group of 24 scouts formed 3 equal teams to clean up the park. How many scouts are on each team?

The whole is _____ scouts. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ scouts on each team.

2. The school band has 48 students. The students go to 6 different places in town to collect bottles. Each location has an equal number of students. How many band members are at each location?

The whole is _____ students. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ students at each location.

3. There are 6 buses to drive 54 students to the park. The same number of students are on each bus. How many students are on each bus?

The whole is _____ students. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ students on each bus.

4. The spelling club, math club, drama club, and poetry club have the same number of students. They combine to make one recycling team of 32 students. How many students are in each club?

The whole is _____ students. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ students in each club.

Lesson 22 Exit Ticket

Model the problem with **linking cubes**. Then write an equation and answer the questions.

1. Elm Street School collected 56 old phones. They sent an equal number of phones to 7 shelters. How many phones did each shelter receive?

The whole is _____ old phones. There are _____ groups.

Division equation: _____ ÷ _____ = _____

Each shelter received _____ phones.

2. Ricky has 5 bags to collect cans. His goal is to collect 45 cans. If he puts the same number of cans into each bag, how many cans will be in each bag?

The whole is _____ cans. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There will be _____ cans in each bag.

3. The library collects used books. Last month they collected 72 books. They pack the same number of books into 8 boxes. How many books are in each box?

The whole is _____ books. There are _____ groups.

Division equation: _____ ÷ _____ = _____

There are _____ books in each box.

Extra Practice: Arts and Crafts Recycling

Read the problem. Use the table and **linking cubes** to find how many items will be in each place. Write the division equation and complete the table.

Ms. Darnell received several art supplies from the school's arts and crafts recycling drive. Belinda wants to organize the supplies, so Ms. Darnell created a table to help Belinda. Belinda puts the same number of objects in each container. How many objects will go in each place?

Art Supplies	Containers	Total at Each Place
42 crayons	6 cases	
63 pieces of paper	7 folders	
32 colored pencils	8 boxes	
27 jars of paint	3 crates	
30 paint brushes	5 cups	

1. How many crayons in each case?

_____ ÷ _____ = _____

2. How many pieces of paper in each folder?

_____ ÷ _____ = _____

3. How many colored pencils in each box?

_____ ÷ _____ = _____

4. How many jars of paint in each crate?

_____ ÷ _____ = _____

5. How many paintbrushes in each cup?

_____ ÷ _____ = _____

Bubbleton Bubble Bath

Model the problem with a **tape diagram**. Then write an equation and check your quotient for reasonableness.

1. At Bubblefest, Carla gives out bottles of bubble bath. She has 40 bottles and puts them into 5 bags. Each bag has the same number of bottles. How many bottles are in each bag?

Division equation: _____ ÷ _____ = _____	There are _____ bottles in each bag.
Use multiplication to show your answer is reasonable. _____	

2. During Bubblefest, people can fill their own bottles of bubble bath at the filling station. Dean pumps 24 ounces of bubble bath into 4 bottles. He puts the same number of ounces in each bottle. How many ounces are in each bottle?

Division equation: _____ ÷ _____ = _____	There are _____ ounces of bubble bath in each bottle.
Use multiplication to show your answer is reasonable. _____	

3. There are 36 people in line to get the newest bubble bath scent, Blueberry Bubble. The people stand in 4 lines with the same number of people in each line. How many people are in each line?

Division equation: _____ ÷ _____ = _____	There are _____ people in each line.
Use multiplication to show your answer is reasonable. _____	

Bubblefest

Review the example problem. Then use **tape diagrams** to solve the problems.

Example

There are **48** people blowing bubbles. They stand in **6** equal groups. How many people are in each group?

Step 1

Find the **numbers** in the problem.

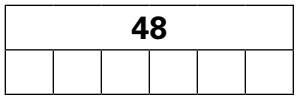
48 people

6 equal groups

How many people are in each group?

Step 2

Identify the problem type. Draw and label the tapes. Divide the bottom tape into equal groups.



Each section represents one of the groups.

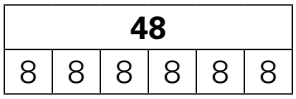
Step 3

Write a division **equation** to represent what the tape diagram will show.

48 ÷ **6** = ?

Step 4

Solve the equation using the tape diagram.



48 ÷ **6** = 8

There are 8 people in each group.

1. At Bubblefest, they give away 30 rubber duckies. Larissa wants to organize the ducks in 6 rows. How many ducks will be in each row?

Division equation: _____ ÷ _____= _____

There will be _____ rubber duckies in each row.

2. At Bubblefest Marco sells 56 bubble wands. He sells 7 packages of the wands. Each package has the same number of wands. How many wands are in each package?

Division equation: _____ ÷ _____= _____

There are _____ wands in each package.

3. At the Invention table, 9 children make 27 bottles of bubble soap. Each child makes the same number of bottles. How many bottles does each child make?

Division equation: _____ ÷ _____ = _____

Each child makes _____ bottles of bubble soap.

Lesson 23 Exit Ticket

Make a tape diagram to solve. Write an equation and check that your answer is reasonable.

1. Carlos arranges 36 bottles of bubble bath in 6 boxes. Each box has the same number of bottles. How many bottles are in each box?

Division equation: _____ ÷ _____ = _____	There are _____ bottles in each box.
Use multiplication to show your answer is reasonable. _____	

2. Nina carries 7 boxes of Tutti Frutti bubble bath bottles to Bubblefest. She brings a total of 63 bottles. Each box has the same number of bottles. How many bottles of bubble bath are in each box?

Division equation: _____ ÷ _____ = _____	There are _____ bottles in each box.
Use multiplication to show your answer is reasonable. _____	

Extra Practice: Game Boards

Draw the boards described. You can draw a **tape diagram** to help you solve. Then write a division equation that models the problem.

1. There are 64 small squares on a chessboard. There are 8 rows on the board. Each row has the same number of squares. Draw a picture of the chessboard.

_____ ÷ _____= _____

2. A game board has 32 squares that players can land on. The squares go around the edge of the board. The game board has 4 sides. Each side has the same number of squares. Draw a picture of the game board. Remember to only count the corner squares once!

_____ ÷ _____= _____

3. Design your own game board below. Write a division equation that describes how the squares fit on the board.

_____ ÷ _____= _____

Tape Diagrams

Tape Diagrams

Rock Painting

Act out the problem with **linking cubes**. Then write an equation and answer the questions.

1. Wally paints 64 rocks in different colors. There are 8 rocks of each color. How many different colors of paint does Wally use?

Division equation: _____ ÷ _____ = _____

There are _____ rocks of each color.

Wally uses _____ colors.

2. Kayla paints different kinds of flowers on 45 rocks. She paints each kind of flower on 5 rocks. How many kinds of flowers does Kayla paint?

Division equation: _____ ÷ _____ = _____

The same flower will be painted on _____ rocks.

Kayla paints _____ kinds of flowers.

3. Han packs 16 painted rocks to take to other gardens. He packs 8 rocks in each box. How many boxes does Han pack?

Division equation: _____

Each box has _____ rocks.

Han packs _____ boxes.

Rock Groups

Act out the problem with **linking cubes**. Then write an equation and answer the questions.

1. Al's class paints 21 rocks. They place the rocks on shelves to dry. They put 7 rocks on each shelf. How many shelves have rocks?

There are _____ rocks in each group.

Division equation: _____ ÷ _____ = _____

There are _____ groups of rocks, so there are _____ shelves with rocks.

2. Carly's class paints 54 rocks. They put the rocks into bags. Each bag has 9 rocks. How many bags of rocks does Carly's class have?

There are _____ rocks in each group.

Division equation: _____

There are _____ groups of rocks, so Carly's class has _____ bags of rocks.

3. Todd's club paints one kind of fish on each group of rocks. They paint 35 fish in all. If each kind of fish has 7 rocks, how many kinds of fish do they paint?

There are _____ rocks in each group.

Division equation: _____

There are _____ groups of rocks, so Todd's club paints _____ kinds of fish.

4. Maya paints 18 rocks to put along hiking trails. If she puts 9 rocks on each trail, how many trails will have Maya's rocks?

There are _____ rocks in each group.

Division equation: _____

There are _____ groups of rocks, so _____ trails will have Maya's rocks.

Lesson 24 Exit Ticket

Act out the problem with **linking cubes**. Then write an equation and answer the questions.

1. Jake makes 15 rocks to give to some friends. He gives 3 rocks to each friend. How many friends get rocks?

Each friend gets _____ rocks.

Division equation: _____

Jake gives rocks to _____ friends, so Jake makes _____ groups.

2. Rose buys 24 rocks to put in her garden. She puts 4 rocks in each row of her garden. How many rows of rocks does Rose have in her garden?

The rocks are in groups of _____.

Division equation: _____

Rose has _____ rows of rocks in her garden, so Rose makes _____ groups.

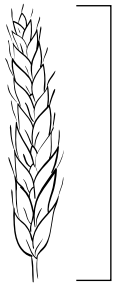
Extra Practice: Cutting Grass

Sally is using dried grass for a craft project. Model the blade of grass shown with **linking cubes**. Then answer the question.

Sally needs this piece of grass cut into pieces that are 7 centimeters long. How many pieces can she make?

_____ ÷ _____ = _____

Sally can make _____ pieces.

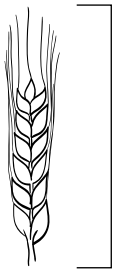


28 centimeters

Sally needs this piece of grass cut into pieces that are 4 centimeters long. How many pieces can she make?

_____ ÷ _____ = _____

Sally can make _____ pieces.

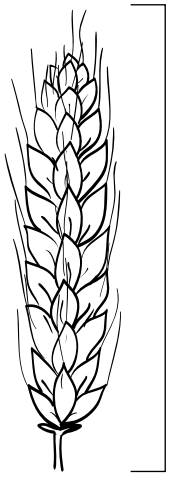


24 centimeters

Sally needs this piece of grass cut into pieces that are 7 centimeters long. How many pieces can she make?

_____ ÷ _____ = _____

Sally can make _____ pieces.



63 centimeters

Kite Festival

Read the problem. Make a **tape diagram** to solve. Write an equation and explain why your answer is reasonable.

1. Lila has 72 ribbons. She ties 12 ribbons on each kite to make each kite tail. How many kite tails can Lila make?

Division equation: _____ ÷ _____ = _____

Lila can make _____ kite tails.

How do you know your answer is reasonable? _____

_____

2. Jerome has 24 ribbons. He ties 6 ribbons on each kite to make the kite tail. How many kite tails can Jerome make?

Division equation: _____ ÷ _____ = _____

Jerome can make _____ kite tails.

How do you know your answer is reasonable? _____

_____

3. Nico has 63 stickers. He decorates the kites by putting 7 stickers on each kite. How many kites does Nico decorate?

Division equation: _____ ÷ _____ = _____

Nico decorates _____ kites.

How do you know your answer is reasonable? _____

_____

Kid Kites

Review the example problem. Then solve the problems using a **tape diagram**.

Example

At the Kite Festival, there are **32** kids waiting to fly a kite. The kids wait in lines. There are **8** kids in each line. How many lines are there?

Step 1

Find the **numbers** in the problem and **identify** the type of problem.

32 kids
8 kids in each line

This is an equal-groups problem.

Step 2

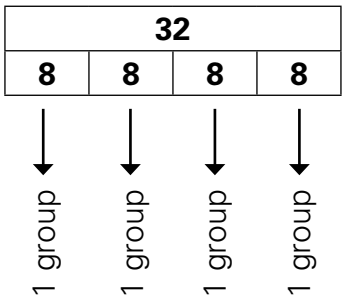
Model with a tape diagram. The whole goes in the top tape. Then make a group.

The whole is **32** kids.
There are **8** in each group

32	
8	

Step 3

Keep making groups until the groups are equal to the whole. Count how many groups.



Step 4

The number of groups is the quotient. Write an **equation**.

32 ÷ **8** = 4

There are 4 lines with **8** kids in each line.

1. There are 84 kids on teams for a kite-flying contest. Each team has 7 kids. How many teams are there?

_____ ÷ _____ = _____ There are _____ teams.

2. A group of kids fly kites on each hill at the beach. There are 55 kids. There are 11 kids on each hill. How many hills are there?

_____ ÷ _____ = _____ There are _____ hills.

3. Some friends go to the festival to fly kites together. For a snack, they have 42 grapes. Each friend eats 6 grapes. How many friends are there?

_____ ÷ _____ = _____ There are _____ friends.

Lesson 25 Exit Ticket

Read the problem. Make a **tape diagram** to solve. Write an equation and explain why your answer is reasonable.

1. At the kite-making station, there are 21 markers. Bodhi puts 7 markers in each box. How many boxes of markers are there?

_____ ÷ _____ = _____ There are _____ boxes of markers.

How do you know your answer is reasonable? _____

_____

_____

2. There are 60 stickers for decorating kites. Taryn places 5 stickers in each bowl. How many bowls have stickers?

_____ ÷ _____ = _____ There are _____ bowls with stickers.

How do you know your answer is reasonable? _____

_____

_____

Extra Practice: Around Town

Solve each problem using a **tape diagram**. Then use the letters that go with the quotients to solve the riddle.

Mel's market has 54 bananas. The bananas are in bunches of 6. How many bunches of bananas are at the market? _____ ÷ _____ = _____ _____ bunches	I
Bonnie's Bookshop donates 50 books to the children's hospital. The books are in boxes of 5. How many boxes of books do they donate? _____ ÷ _____ = _____ _____ boxes	Y
Nate's Hardware Store has 32 hammers. The hammers are in boxes of 4. How many boxes of hammers does Nate's Hardware Store have? _____ ÷ _____ = _____ _____ boxes	A
Sophie's Soap Shop has 48 mini soaps. The soaps are in bags of 8. How many bags of soap does Sophie's Soap Shop have? _____ ÷ _____ = _____ _____ bags	B
Carmela's Cakery has 20 chairs. Carmela places 4 chairs at each table. How many tables are in Carmela's Cakery? _____ ÷ _____ = _____ _____ chairs	L
Tam's Toy Store has 21 puzzles. The puzzles are in packages of 3. How many packages of puzzles does the toy store have? _____ ÷ _____ = _____ _____ packages	R

What building has the most stories?

The	_____	_____	_____	_____	_____	_____	_____ !
	5	9	6	7	8	7	10

Tape Diagrams

Tape Diagrams

Music Camp

Choose a tool or strategy to solve. Then answer the questions.

1. The drummers in the marching band stand in 5 rows. Each row has 4 drummers. How many drummers are in the band?

Circle what is missing.

The whole How many groups How many in each group

What equation models the problem?

_____ There are _____ drummers in the band.

2. There are 16 trumpets in the marching band. The trumpet players stand in rows with 4 trumpets in each row. How many rows of trumpets are there?

Circle what is missing.

The whole How many groups How many in each group

What equation models the problem?

_____ There are _____ rows of trumpets.

3. There are 72 trombones in the marching band. The trombone players stand in 9 rows. How many trombones are in each row?

Circle what is missing.

The whole How many groups How many in each group

What equation models the problem?

_____ There are _____ trombones in each row.

Rock Band

Review the example problem. Choose any tool or strategy to solve.

Example

There are **24** microphones stored in **3** closets. Each closet has the same number of microphones. How many microphones are in each closet?

Step 1

Find the **numbers. Identify** the problem type.

The whole is **24** microphones.

The number of groups is **3**.

I don't know how many in each group.

Step 2

Use a **model** to solve.

24		
?	?	?

Step 3

Write an **equation** to model the problem.

24 ÷ **3** = 8

There are 8 microphones in each closet.

Step 4

Check if your answer makes **sense**.

Yes, my answer makes sense because I know that $3 \times 8 = 24$.

1. Guitars are stored in 4 closets. Each closet holds 7 guitars. How many guitars are there?

Is this a multiplication or division problem? How do you know? _____

_____

_____

What equation represents the problem? _____

There are _____ guitars.

2. There are 36 keyboard players at camp. They share 9 keyboards. How many players use each keyboard?

Is this a multiplication or division problem? How do you know? _____

_____

_____

What equation represents the problem? _____

_____ players use each keyboard.

Lesson 26 Exit Ticket

Read the problems. Choose a tool or strategy to solve. Then answer the questions.

1. Maria practices the piano for 60 minutes. Each song she plays is 5 minutes long. How many songs does Maria play?

Circle what is missing.

The whole How many groups How many in each group

Is this a multiplication or division problem? How do you know? _____

_____

_____

What equation represents the problem? _____

Maria plays _____ songs.

2. Maria practices 12 songs on the piano. If each song is 5 minutes long, how long does Maria practice?

Circle what is missing.

The whole How many groups How many in each group

Is this a multiplication or division problem? How do you know? _____

_____

_____

What equation represents the problem? _____

Maria practices for _____ minutes.

Extra Practice: Parade Time

Draw a model to solve. Then write an equation and solve.

1. A group of 56 clowns with kazoos get ready to march in the parade. They form 8 equal rows. How many clowns are each row?

What is missing? the whole how many groups how many in each group	
My Model:	
My Equation:	My Solution: There are _____ clowns in each row.

2. The clowns bring 7 bunches of balloons. There are 8 balloons in each bunch. How many balloons are there?

What is missing? the whole how many groups how many in each group	
My Model:	
My Equation:	My Solution: There are _____ balloons.

Tape Diagrams

Tape Diagrams

Assessment

Unit 3 Assessment

1. The tape diagram shows the total number of runners at a race. There are 5 teams of runners.

40				
8	8	8	8	8

Write an addition equation to model the problem: _____

Write a multiplication equation to model the problem: _____

2. Some students are in after-school clubs. Each club has 7 students. There are 4 clubs. How many students are in clubs? Complete the tape diagram to solve.

There are _____ students in clubs.

3. A boat race allows 3 people in each boat. There are 9 boats in the race. How many people are in the boat race? Use the tape diagram to solve. Then write an equation.

Equation: _____

There are _____ people in the boat race.

4. Zoe picks 48 tulips. She puts them in 6 vases. Each vase has the same number of tulips. How many tulips are in each vase? Complete the tape diagram to solve. Then write a division equation.

Equation: _____

There are _____ tulips in each vase.

5. Nina brings 4 bags of rolls to a party. She brings a total of 24 rolls. Each bag has the same number of rolls. How many rolls are in each bag? Draw a tape diagram to solve. Then write an equation.

Equation: _____

There are _____ rolls in each bag.

6. Ethan baked some pizzas and now has 32 slices of pizza for a party. He cut each pizza into 8 slices. How many pizzas did Ethan bake? Draw a tape diagram to solve. Then write an equation.

Equation: _____

Ethan baked _____ pizzas.

7. Aiden picks 48 carrots. He puts 4 carrots in each bunch. How many bunches of carrots does Aiden have? Draw a tape diagram to solve. Then write an equation.

Equation: _____

Aiden has _____ bunches.

8. Abby has some crayons. She puts her crayons in 5 rows. She puts 6 crayons in each row. How many crayons does Abby have? Solve and write an equation.

My Model:

My Equation: Abby has _____ crayons.

9. There are 25 birds in the yard. There are 5 birds at each bird feeder. How many bird feeders are in the yard?

Circle what is missing.

the whole how many groups how many in each group

What equation models the problem? _____

10. Liam's exercise class is 45 minutes. Each exercise is 5 minutes long. How many exercises are there in Liam's class? Show your work.

There are _____ exercises in Liam's class.

Unit 3 Cumulative Review

1. Subtract. 475 – 100 = _____

2. Ian made 31 cards. He gave away some of the cards. Now Ian has 17 cards left. How many cards did Ian give away?

Ian gave away _____ cards.

3. Write an equation to represent 2 groups of 5 counters.

_____ × _____ = _____

4. Leah cuts 54 squares of fabric to make quilts. She sews 6 quilts. Each quilt has the same number of squares. How many squares make up each quilt?

Each quilt has _____ squares.

5. Subtract. 53 – 12 = _____

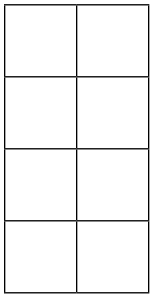
6. Sophia went bowling. She scored 42 points in the first game and 38 points in the second game. How many points did Sophia score in the two games?

Sophia scored _____ points in the two games.

7. Draw an array to show the addition.

3 + 3 + 3 + 3 + 3 + 3 = _____

8. Write an equation that shows the area of the rectangle.



_____ × _____ = _____ square units

9. Luke sells each drawing for $2. He sells 9 drawings. How much does Luke earn?

Luke earns _____ dollars.

10. Subtract. 44 – 17 = _____

11. Subtract. 126 – 45 = _____

12. There were 18 sunny days in the month and 12 cloudy days. How many more days were sunny than cloudy?

_____ more days were sunny.

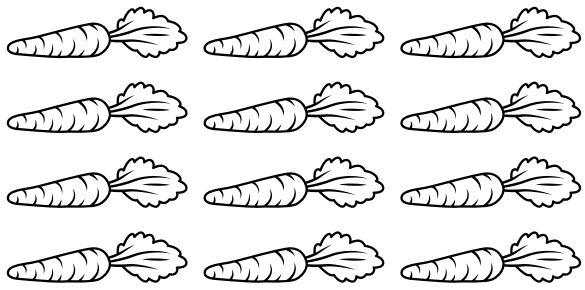
13. Is the number of stars odd or even?

The number of stars is _____.

14. Liam, Jane, and Hannah share 12 carrot sticks equally. How many carrots does each student get?

Each student gets _____ carrot sticks.

15. Write a multiplication equation that is related.



12 ÷ 4 = 3 _____ × _____ = _____