Eureka Math

4th Grade
Module 3
Lesson 15

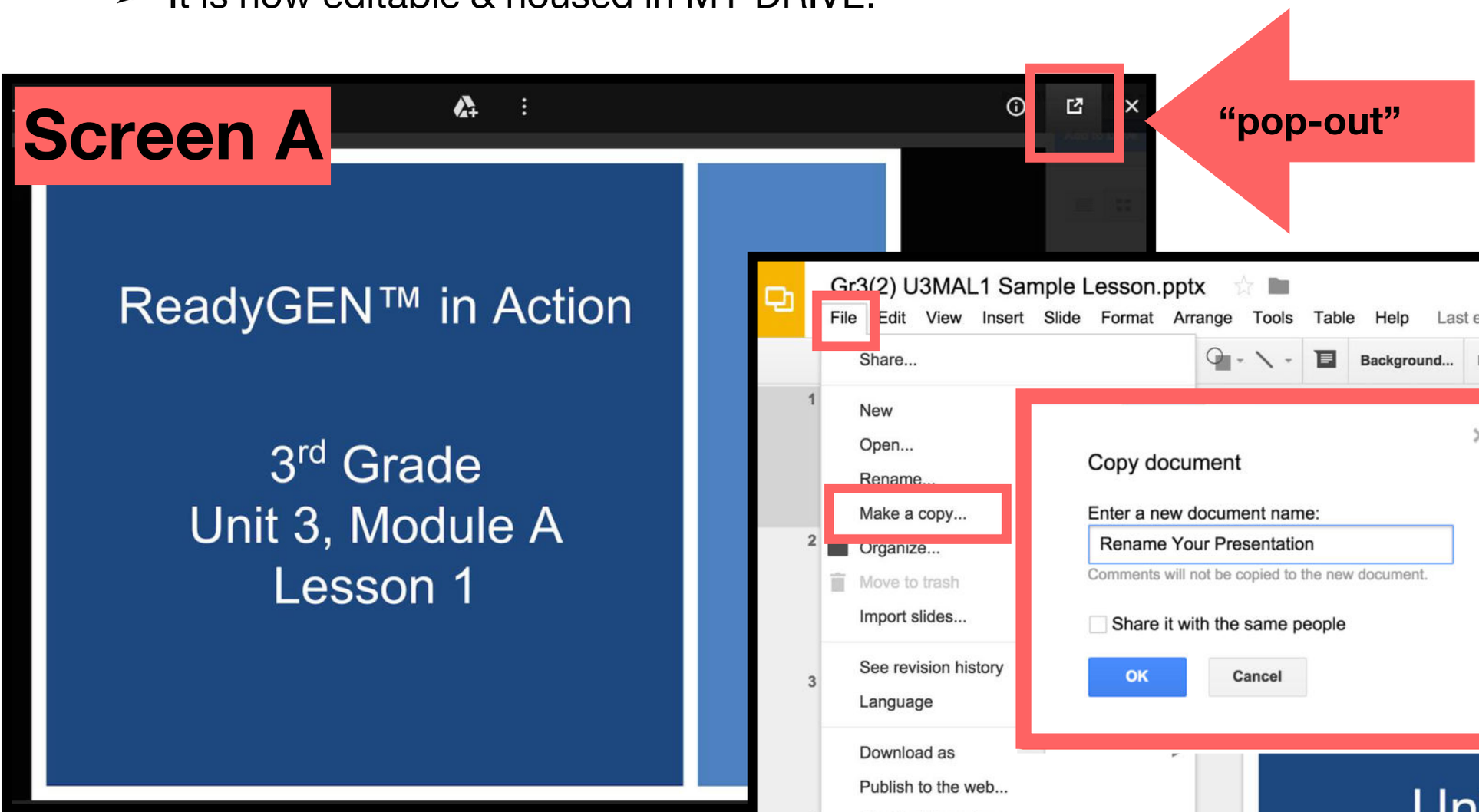
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

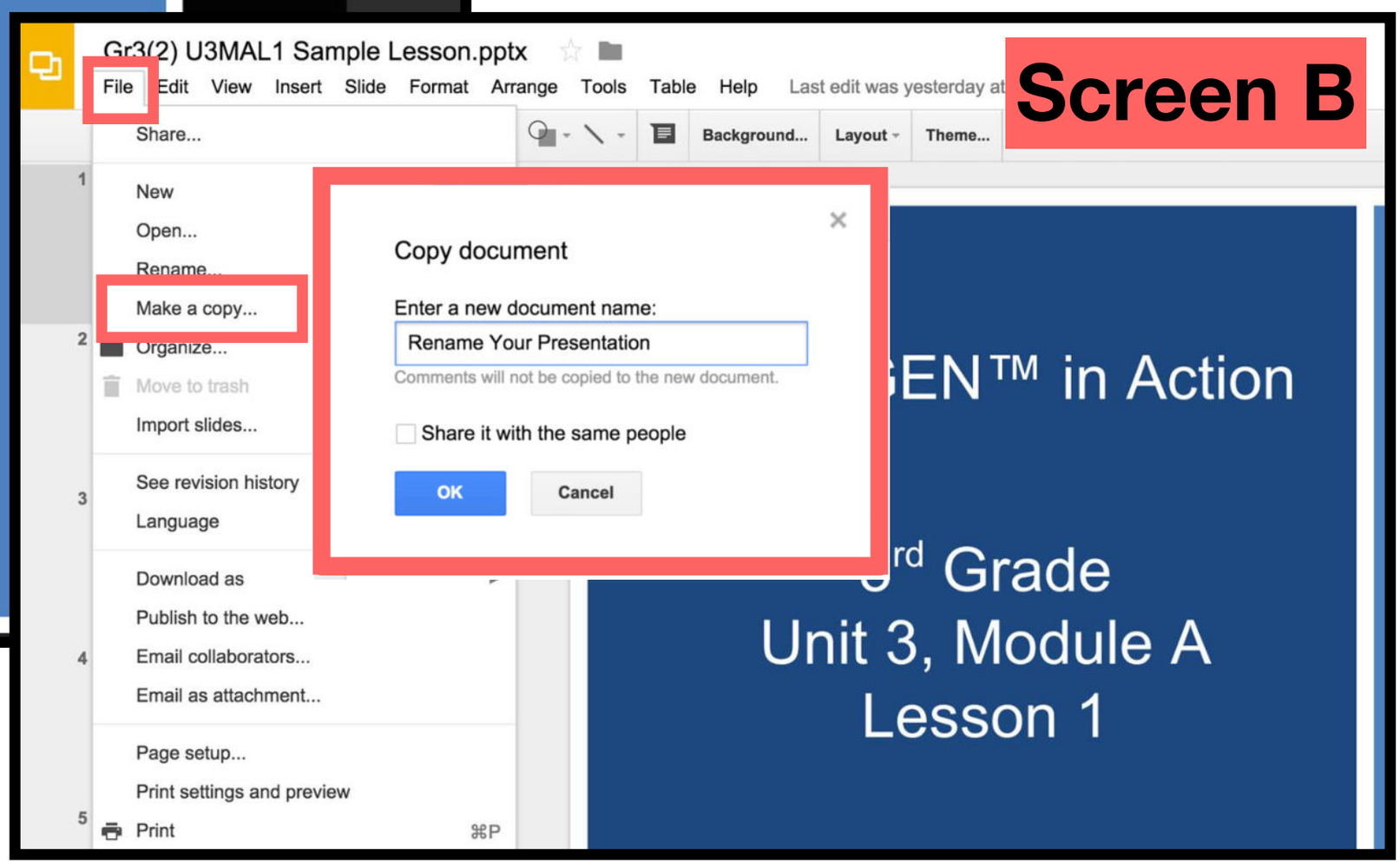
Directions for customizing presentations are available on the next slide.

Customize this Slideshow

Reflecting your Teaching Style and Learning Needs of Your Students

- When the Google Slides presentation is opened, it will look like Screen A.
- Click on the “pop-out” button in the upper right hand corner to change the view.
- The view now looks like Screen B.
- Within Google Slides (not Chrome), choose FILE.
- Choose MAKE A COPY and rename your presentation.
- Google Slides will open your renamed presentation.
- It is now editable & housed in MY DRIVE.



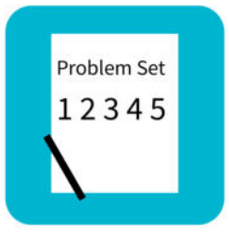


Icons

Read, Draw, Write

Learning Target

Personal White Board

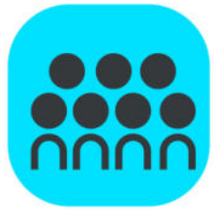


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

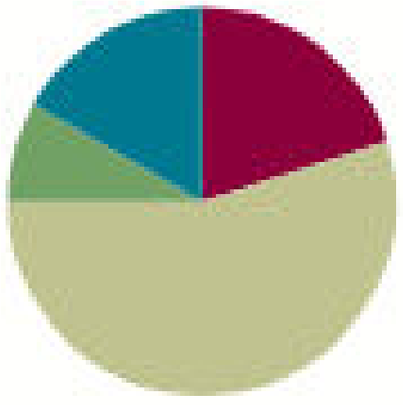
Small Group Time

Lesson 15

Objective: Understand and solve division problems with a remainder using the array and area models.

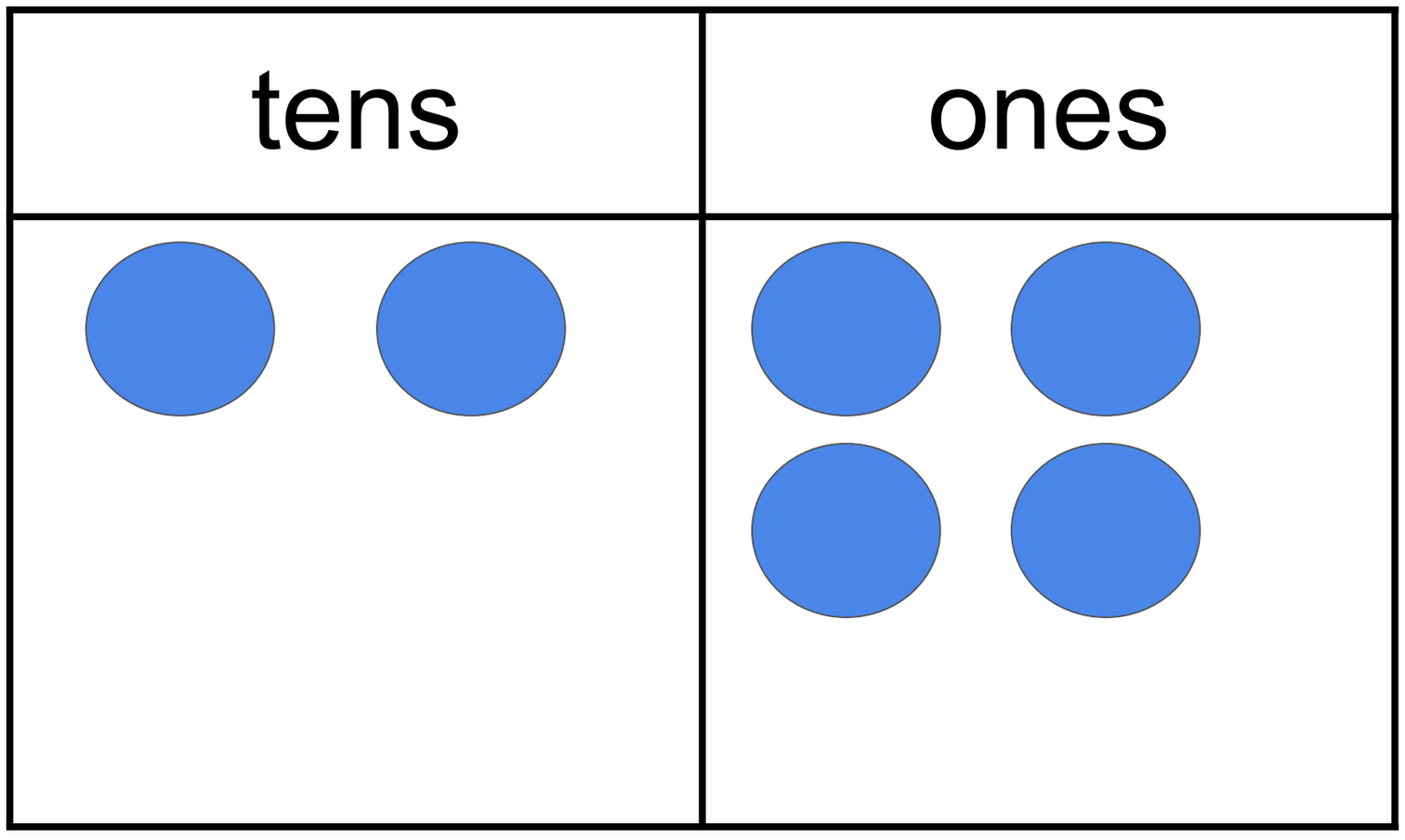
Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



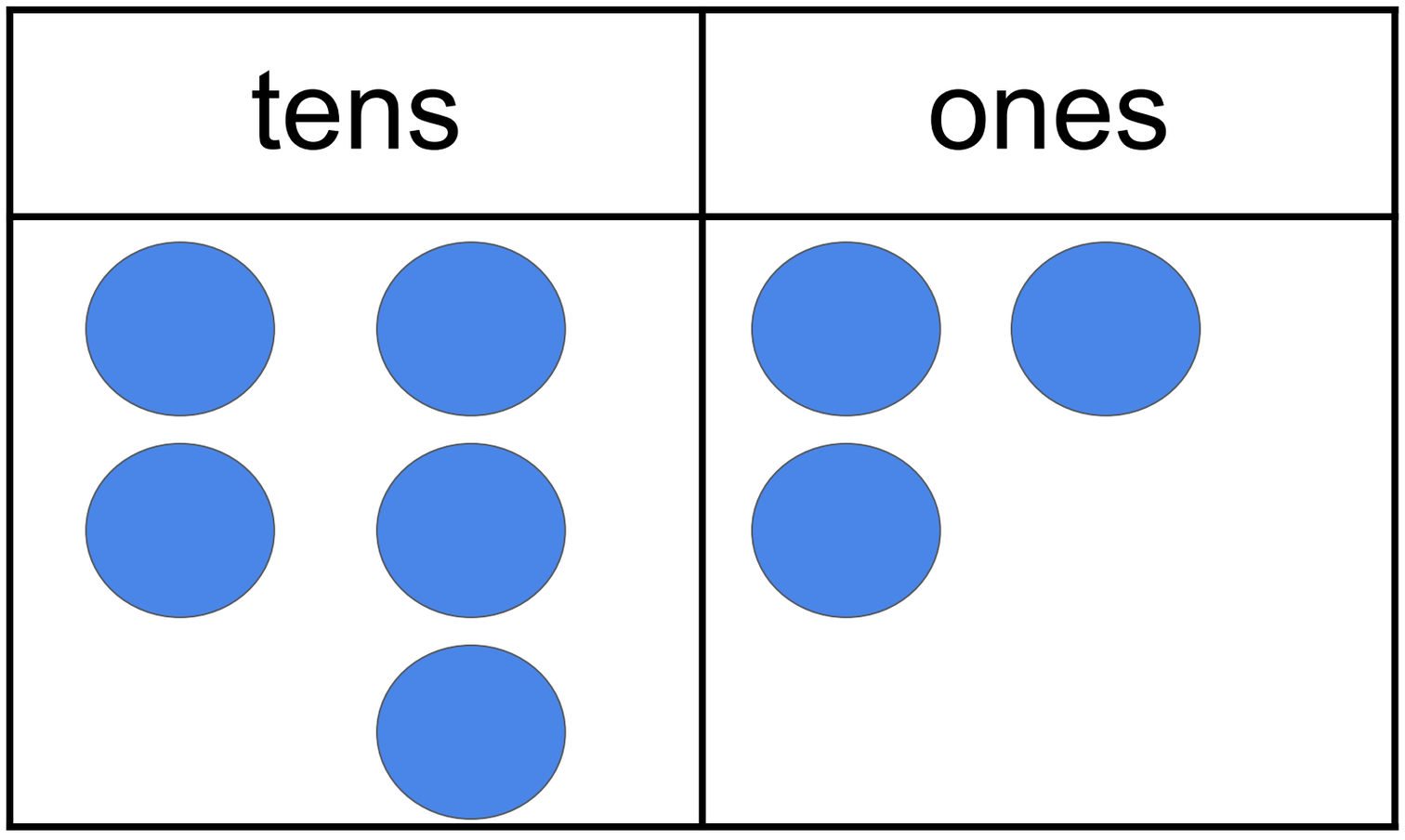
Understand and solve division problems with a remainder using the array and area models.

Show Values with Place Value Disks



On your personal white boards, write the number in standard form.

Show Values with Place Value Disks



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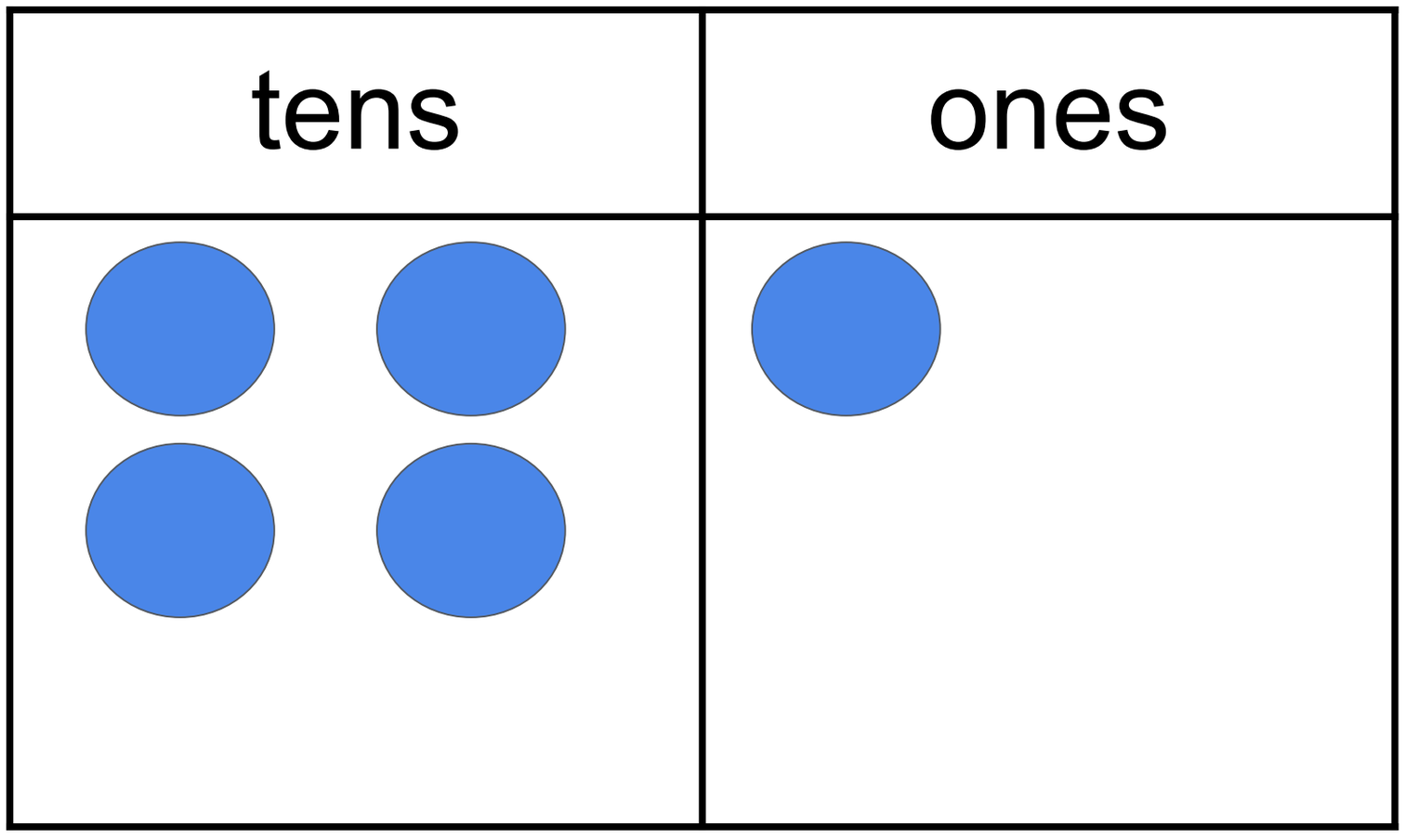

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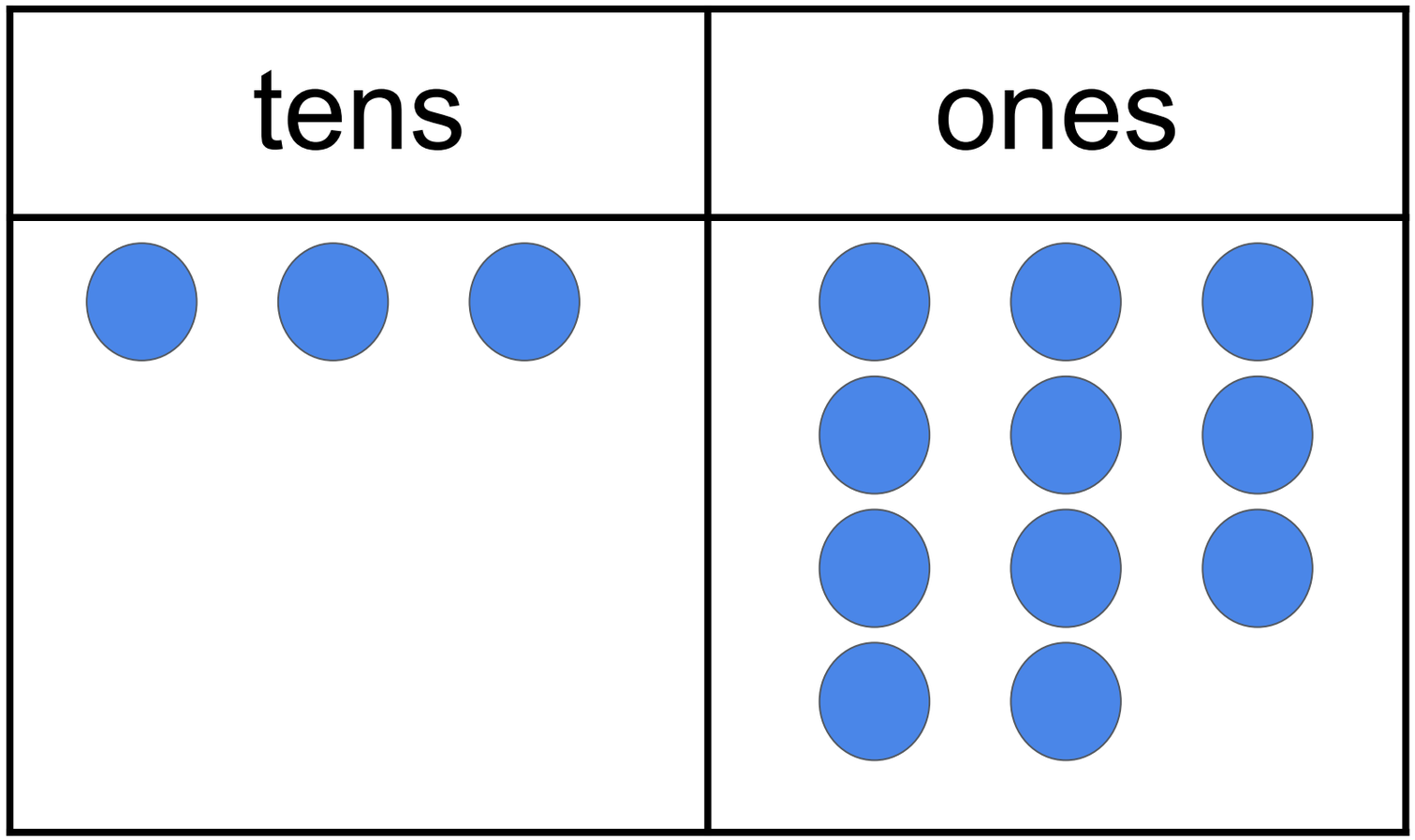

On your personal white boards, write the number in standard form.

Show Values with Place Value Disks

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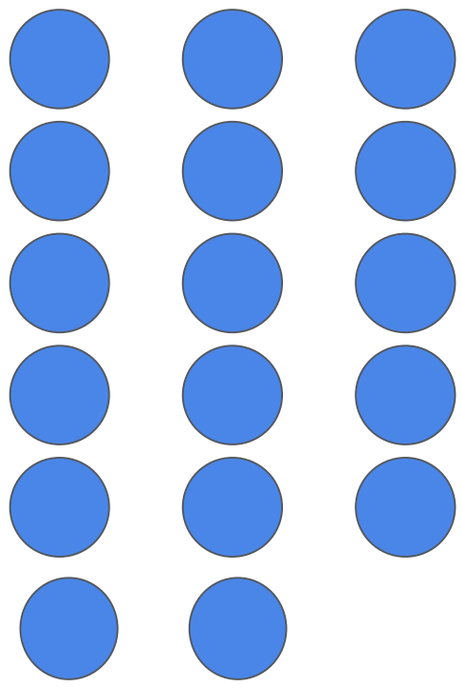
	

On your personal white boards, write the number in standard form.

Show Values with Place Value Disks

32

Say the number.
Show 32 using place value disks.

21

Say the number.
Show 21 using place value disks.

43

Say the number.
Show 43 using place value disks.

Divide with Remainders

How many groups of 2 are in 10?

Let’s prove it by counting by twos. Use your fingers as you count.

Show and say how many groups of 2 are in 10.

Number Sentences in an Array

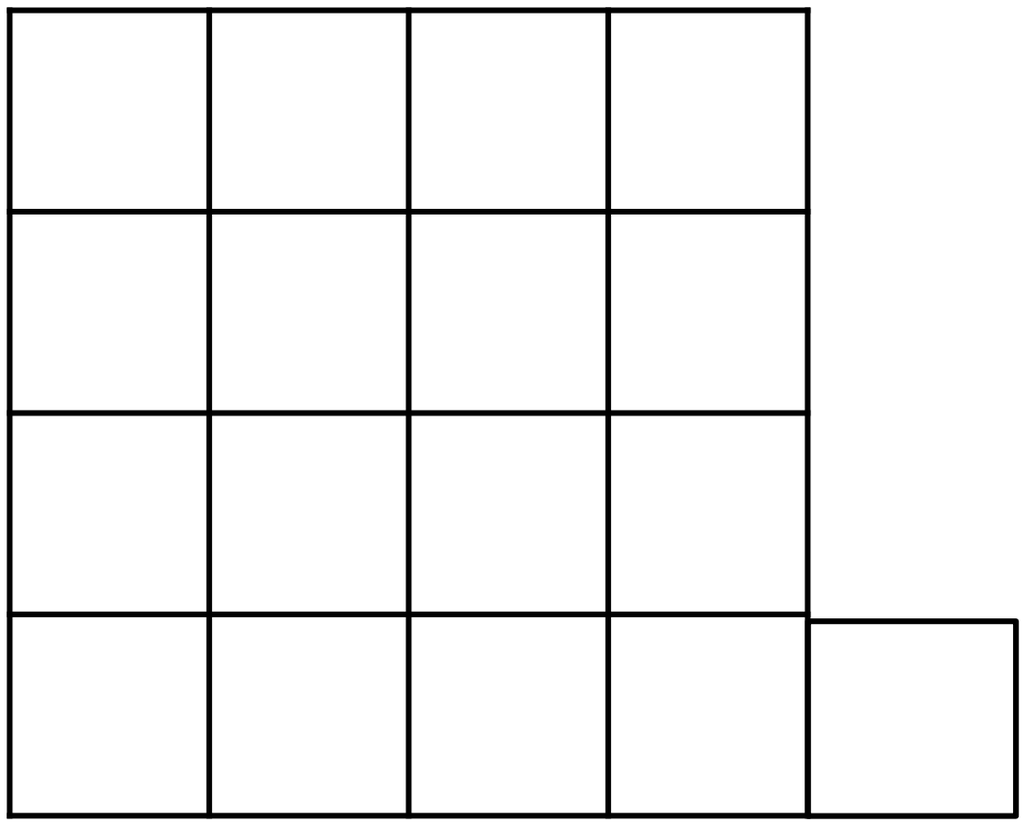
How many boxes do you see altogether?

Let’s count by fives to check.

Plus 1?

Count by threes to check.

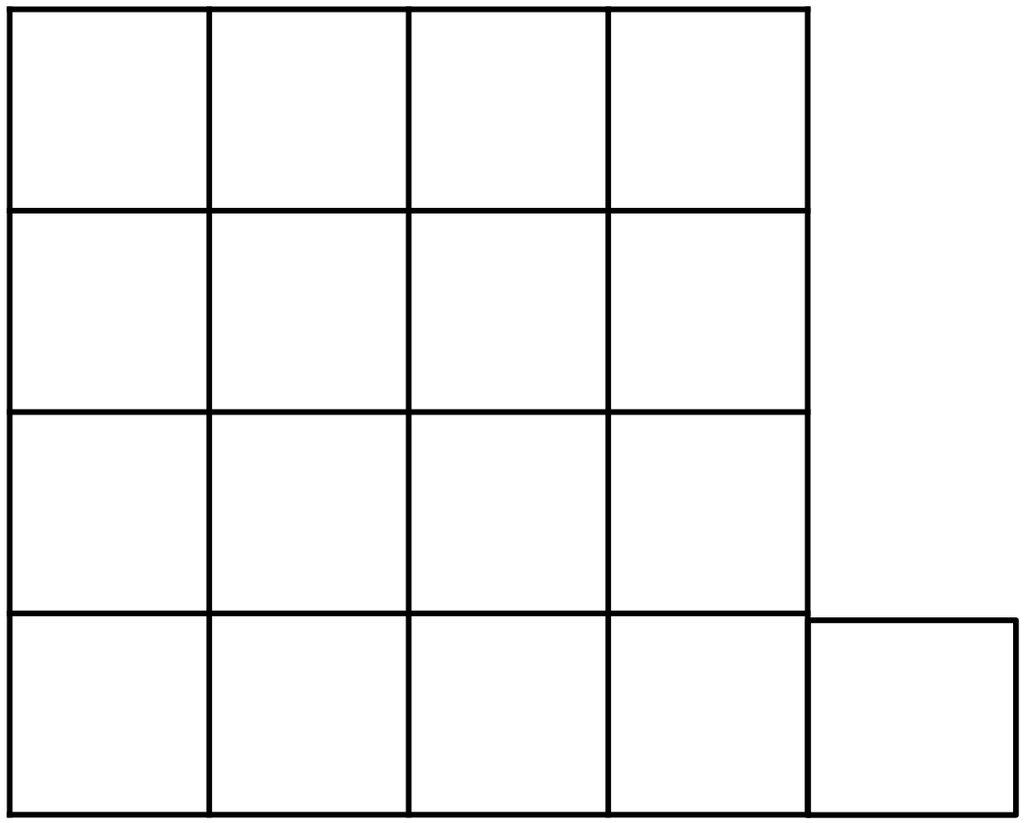
Plus 1?

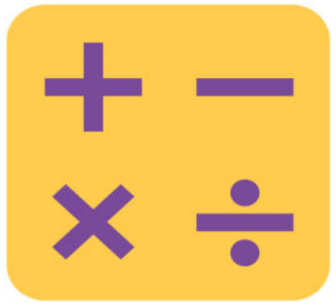


Number Sentences in an Array

On your whiteboard, write two multiplication sentences to show how many boxes are in this array.

Write two division sentences for this array.





Number Sentences in an Array

Read Draw Write

Read the problem.

Draw and Label.

Write a number sentence.

Write a word sentence.

Application Problem

Chandra printed 38 photos to put into her scrapbook. If she can fit 4 photos on each page, how many pages will she use for her photos?

Solve a Division Problem

Draw an array to represent 10 ÷ 2.

Explain to your partner how you solved.

Let’s use grid paper to draw a rectangle with an area of 10 square centimeters and one side length of 2 centimeters.

Tell your partner how we can find the unknown side length.

Solve a Division Problem

Discuss with your partner how the length of 5 centimeters is represented in the area model.

Solve a Division Problem

$11 \div 2$

With your partner, discuss how you would draw an area model for $11 \div 2$.

Eleven square centimeters is the total area.

Let’s draw a rectangle starting with a width of 2 centimeters. We’ll continue lengthening it until we get as close to 11 square centimeters as we can.

Solve a Division Problem

We can show a total area of 11 square centimeters by modeling 1 more square centimeter. The remainder of 1 represents 1 more square centimeter.

Solve a Division Problem

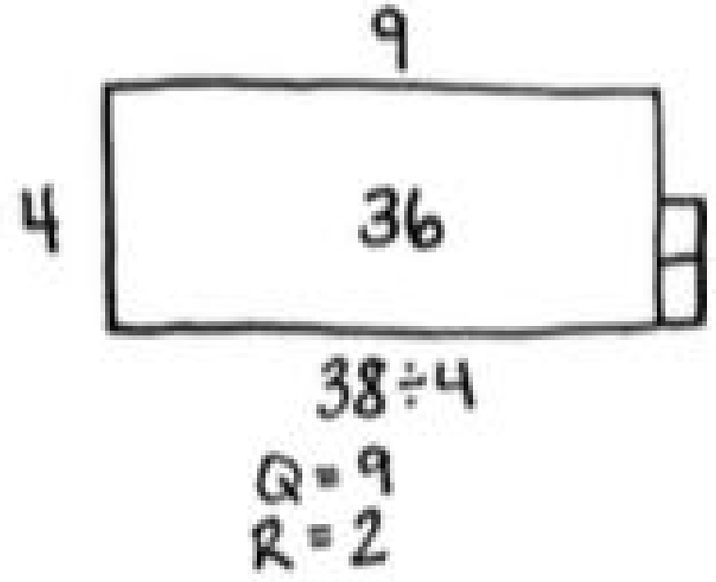
38 ÷ 4

In the Application Problem, you drew an array to solve. Represent the same problem using the area model on grid paper.

Solve a Division Problem

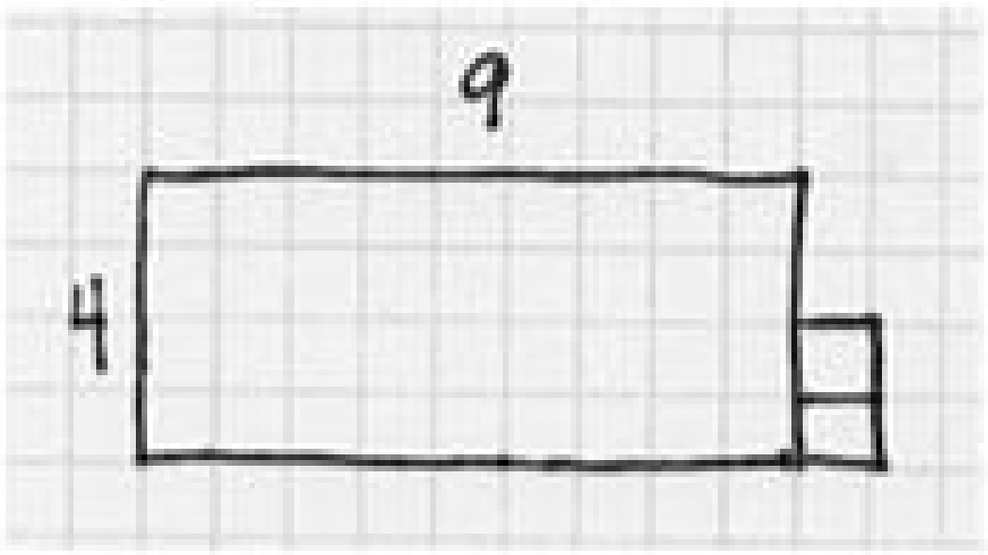
What do you notice about the array compared to the area model on graph paper?

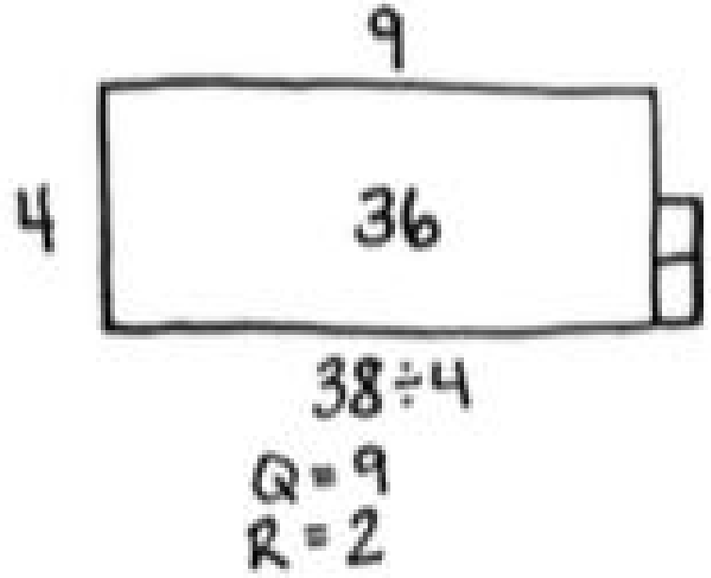
Let’s represent 38 ÷ 4 even more efficiently without grid paper since it’s hard to come by grid paper every time you want to solve a problem.

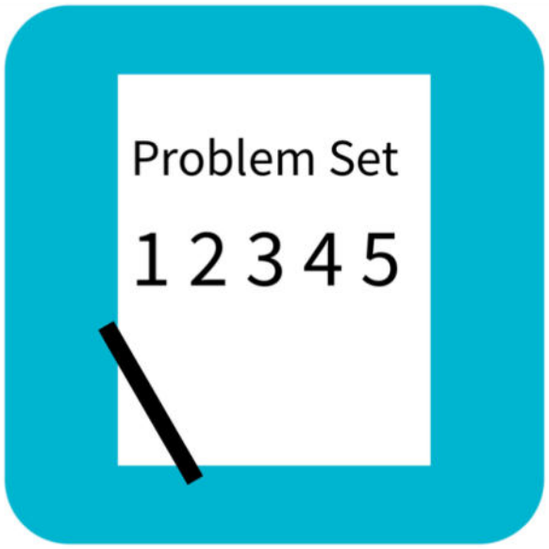


Solve a Division Problem

Talk to your partner about how the area model and grid paper model supported you in drawing the rectangle with a given structure.

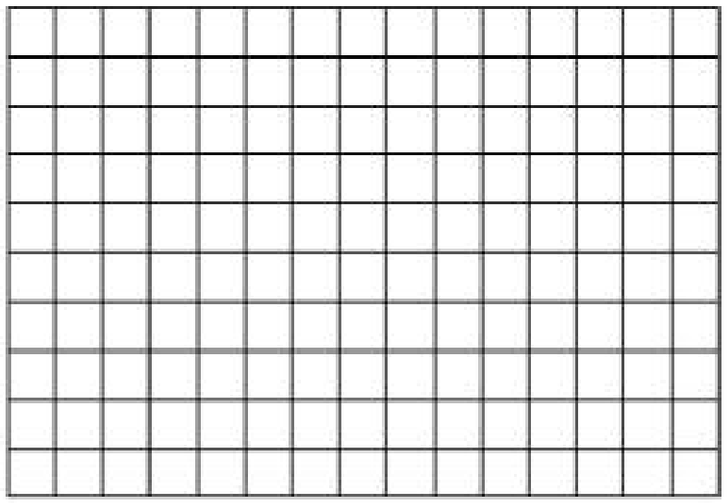






Problem Set

Name _____ Date _____

Show division using an array.	Show division using an area model.
1. 18 ÷ 6 Quotient = _____ Remainder = _____	 Can you show 18 ÷ 6 with one rectangle? _____

Debrief

Participate in the discussion by...

- Thinking about the question.
- Sharing your work.
- Explaining your strategy.
- Listening to others.

Debrief

What does the quotient represent in the area model?

When does the area model present a challenge in representing division problems.

The quotient represents a side length. The remainder consists of square units. Why?

What new math vocabulary did we use today to communicate precisely?

Exit Ticket

Name _____ Date _____

Solve using an array and area model.

1. $27 \div 5$

   a.

   b.

2. $32 \div 6$

   a.

   b.