Eureka Math

3rd Grade
Module 4
Lesson 9

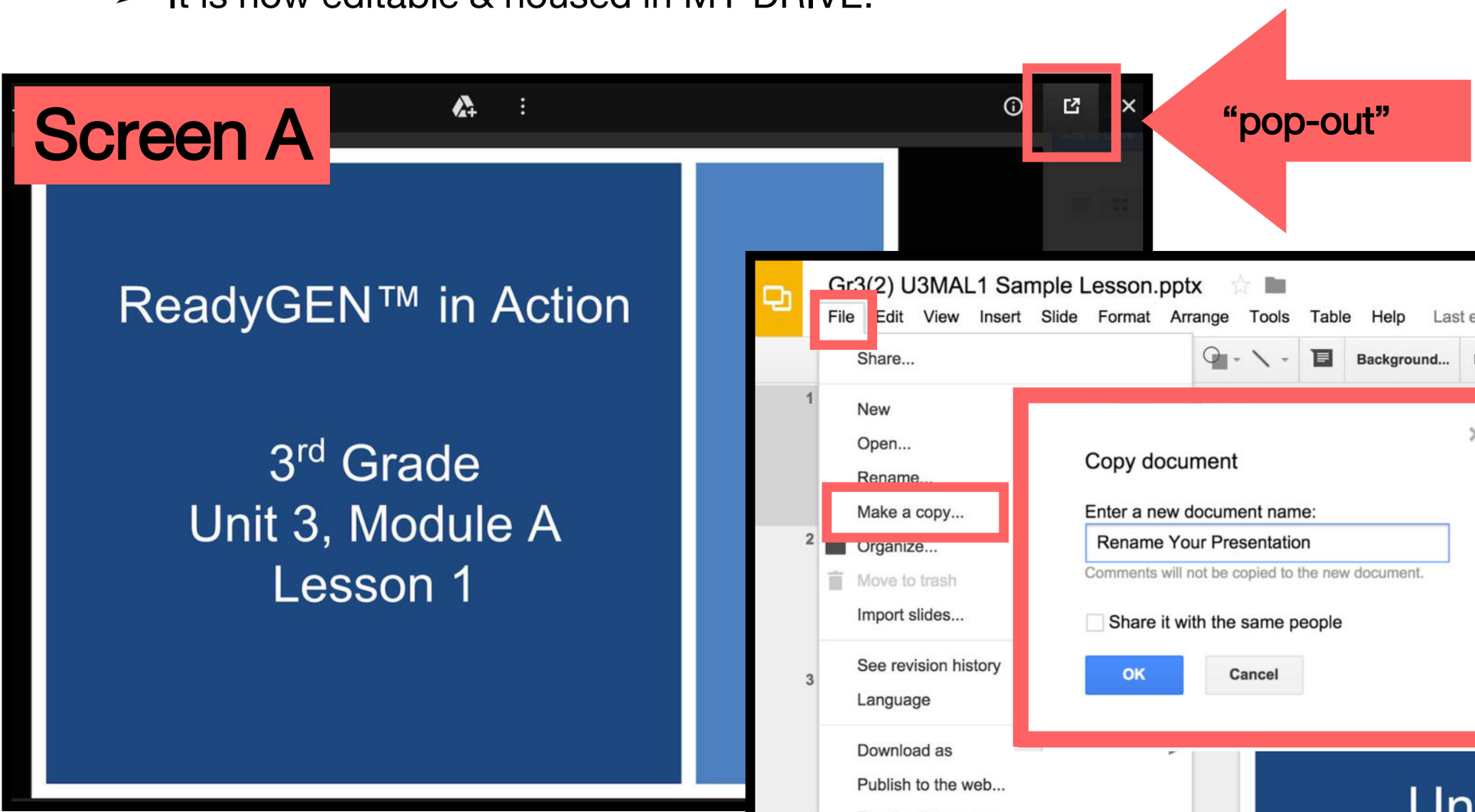
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

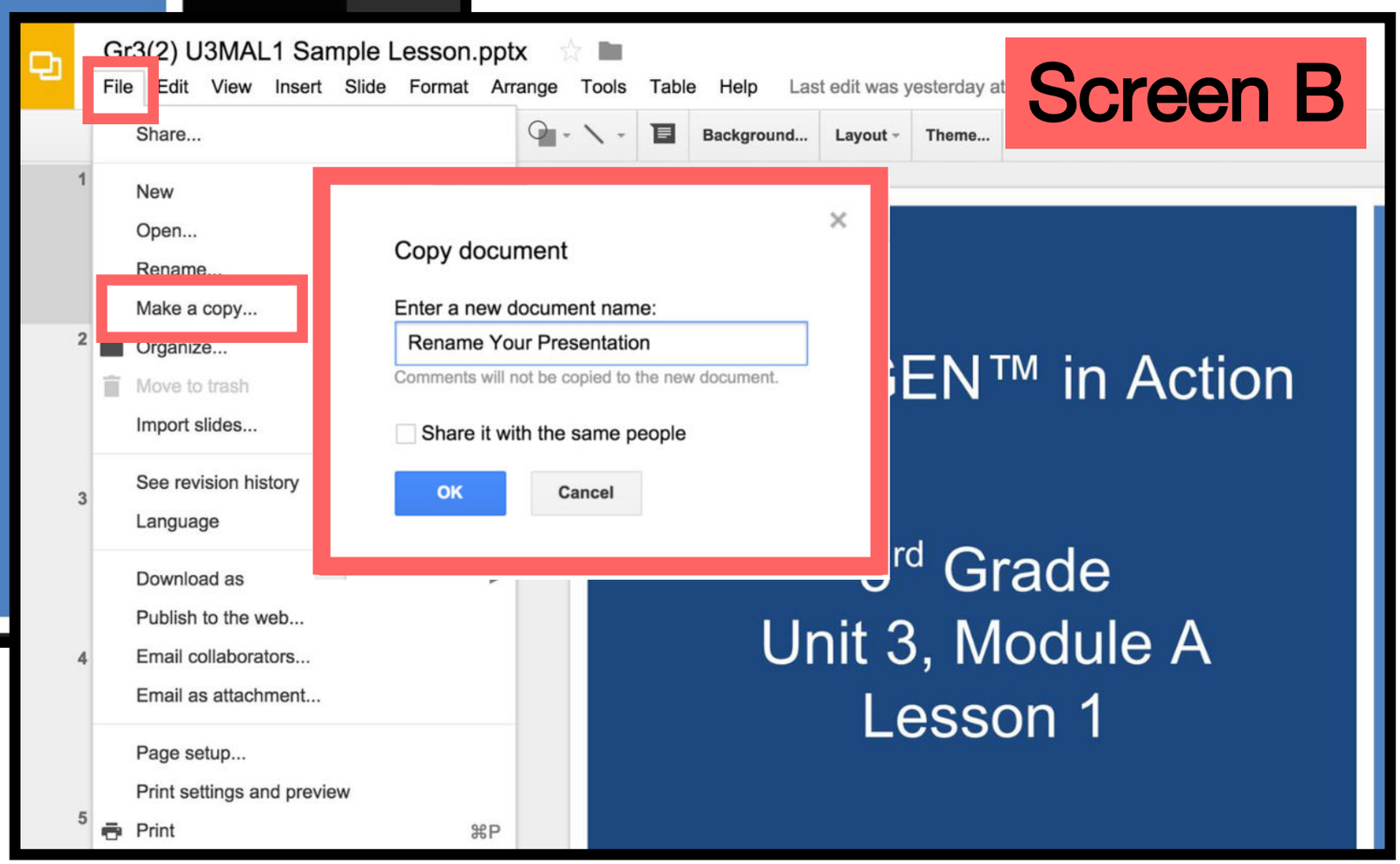
Directions for customizing presentations are available on the next slide.

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

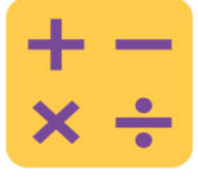
Read, Draw, Write

Learning Target

Personal White Board

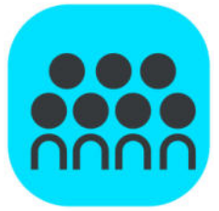
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

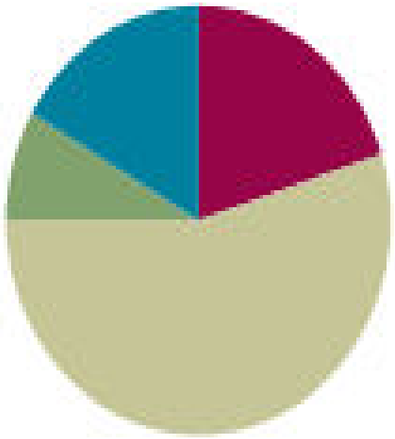
Small Group Time

Lesson 9

Objective: Analyze different rectangles and reason about their area.

Suggested Lesson Structure

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



I can analyze different rectangles and reason about their area.

Fluency Practice

Group Counting

Count forward and backward as I indicate with pointing my finger, by...

- Fours to 40
- Sevens to 70
- Eights to 80
- Nines to 90

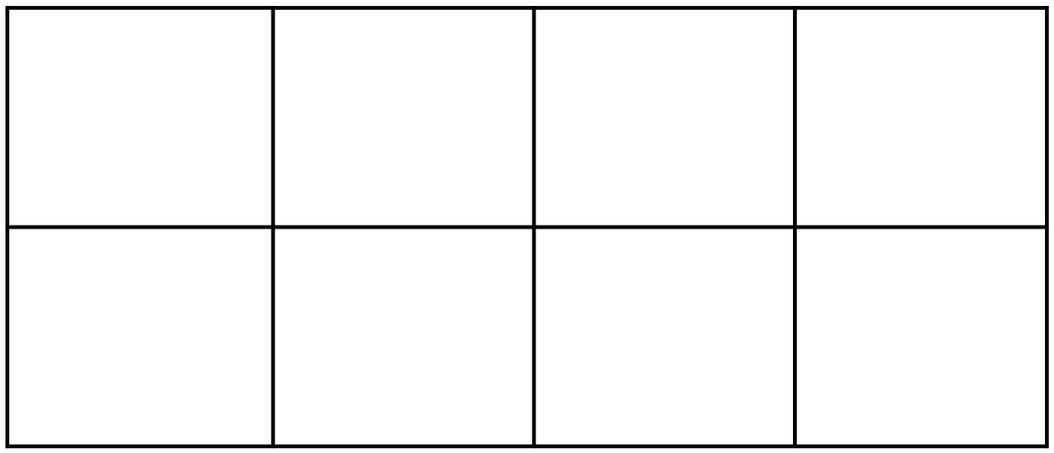
Fluency Practice

Find the Area

1 tile = 1 Square meter

What does 1 tile equal?

___ meters



What is the value of each side? (rows? columns?) ___m.

Write a multiplication sentence to represent the area of the rectangle.

Answer:

2 m. x 4 m. = 8 Sq. m or 4 m. x 2 m. = 8 Sq. m

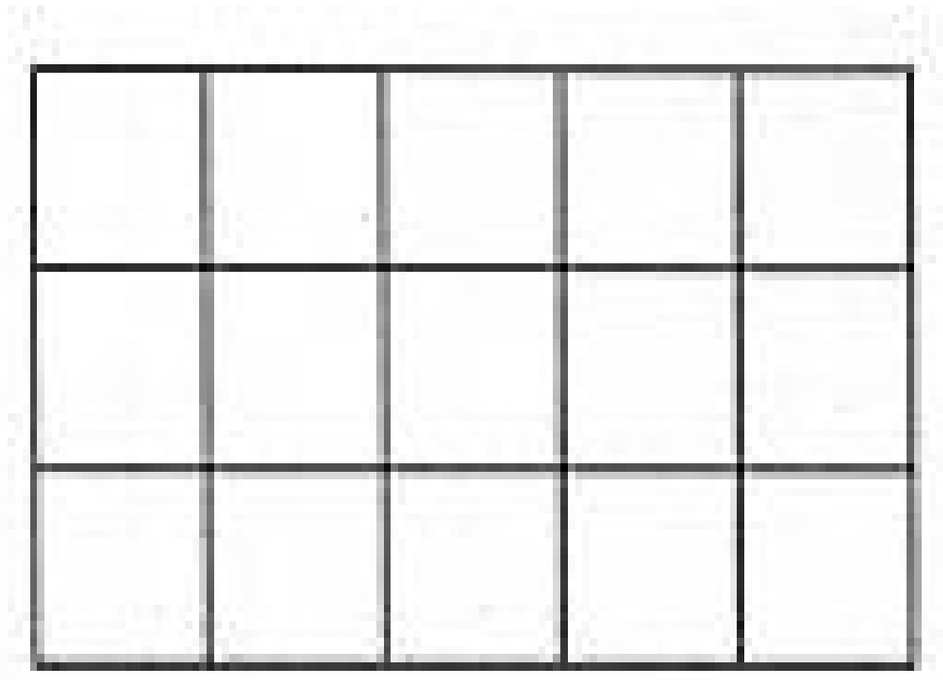
Fluency Practice

Find the Area

1 tile = 1 square meter

What does 1 tile equal?

___ meters



What is the value of each side? (rows? columns?) ___m.

Write a multiplication sentence to represent the area of the rectangle.

Answer:

3 m. x 5 m. = 15 Sq. m or 5 m. x 3 m. = 15 Sq. m

Fluency Practice

Find the Area

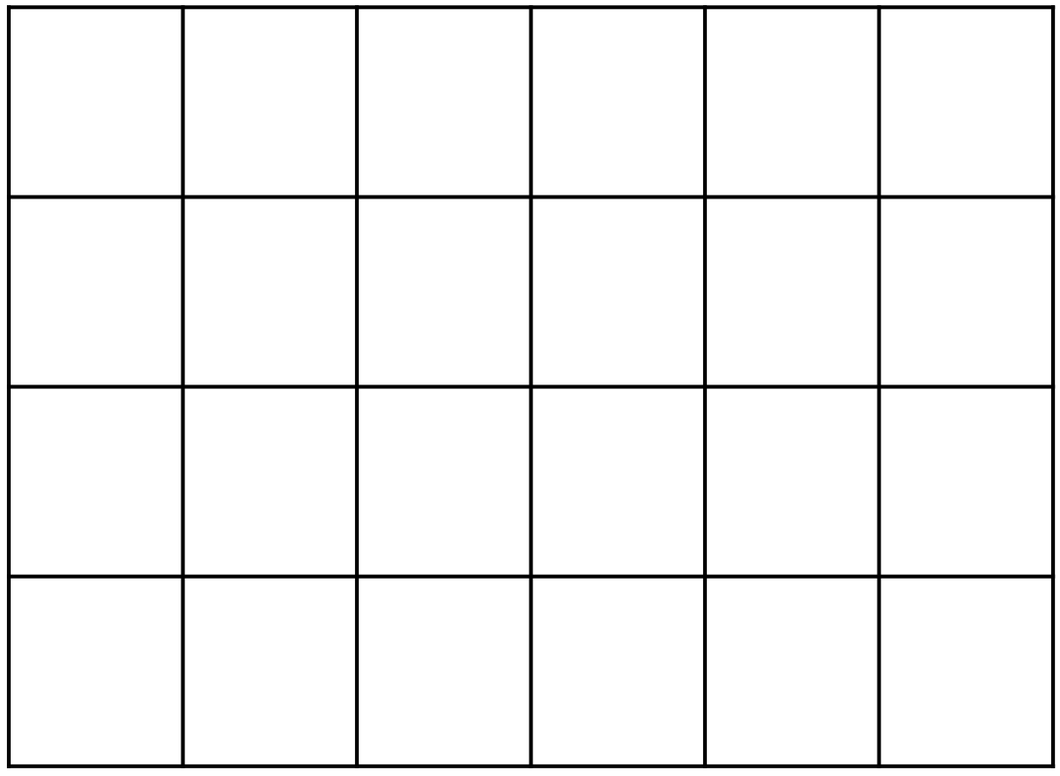
1 tile = 1 square meter

What does 1 tile equal?

What is the value of each side? (rows? columns?)

___ meters

___ m.



Write a multiplication sentence to represent the area of the rectangle.

Answer:

4 m. x 6 m. = 24 Sq. m or 6 m. x 4 m. = 24 Sq. m

Fluency Practice

Decompose Multiplication Equations

Copy the equations and fill in the blanks

$8 \times 6 = (5 + \_\_\_) \times 6$

Now fill in how we broke apart the 8

$(\_\_\_ \times 6) + (\_\_\_ \times 6)$

Write an addition equation below each equation and solve.

Fluency Practice

Decompose Multiplication Equations

Copy the equations and fill in the blanks

7 x 6 = (5 + ___) x 6

Now fill in how we broke apart the 8

(___ x 6) + (___ x 6)

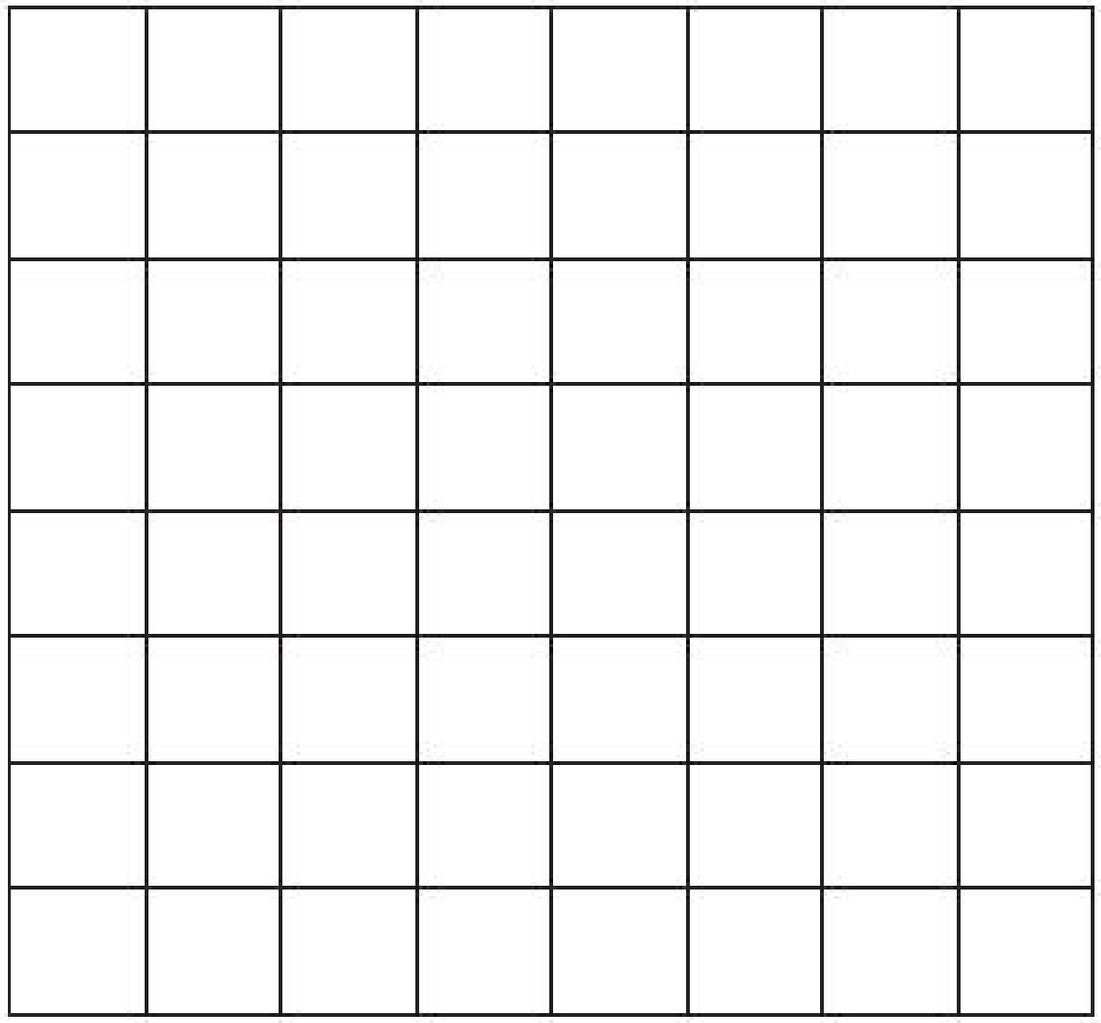
Write an addition equation below each equation and solve.

Application Problem

Mario plans to completely cover his 8-inch by 6-inch piece of cardboard with square inch tiles. He has 42 square inch tiles. How many more square inch tiles does Mario need to cover the cardboard without any gaps or overlap. Explain your answer.

Concept Development

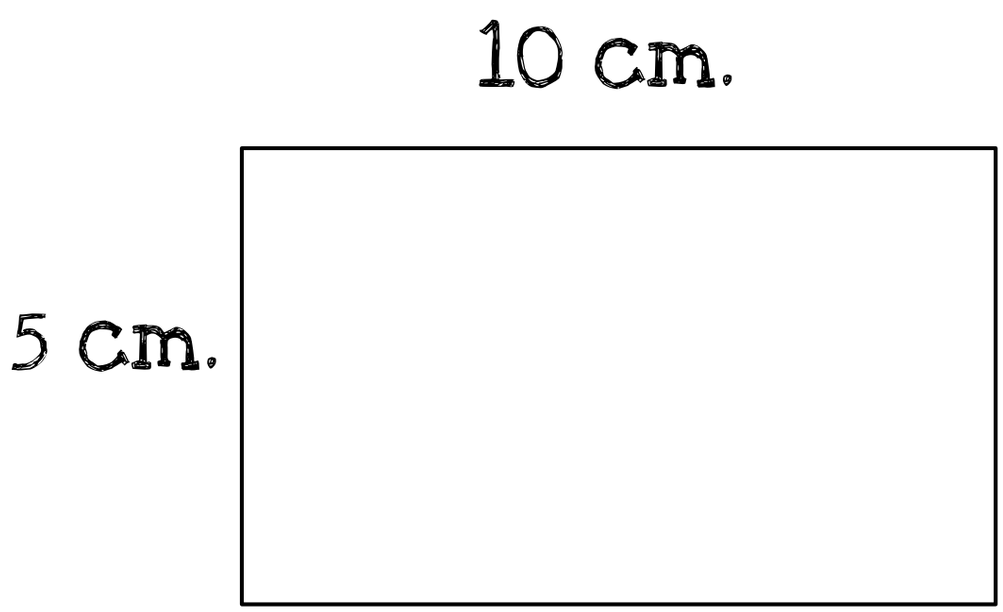
How can we cut this centimeter grid to get 2 equal rectangles?

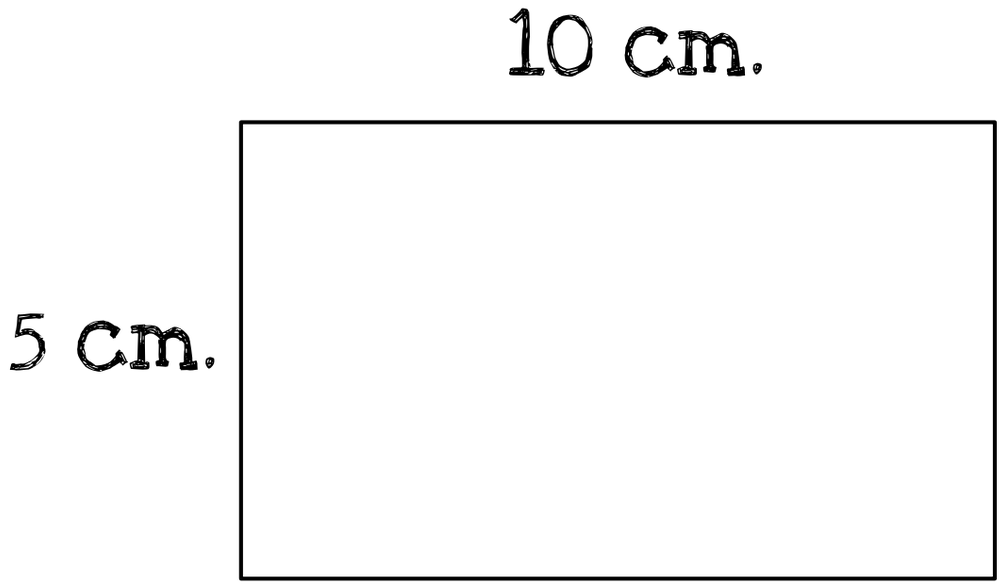


Model by drawing a line on this grid. Students draw a line with marker on their own grid template and cut.

Concept Development

In your workbook we can draw the 2 rectangles without drawing every Square to be more efficient.





How can we find the area of one of the rectangles? How about the second rectangle? What is the total area?

- This is your answer to 1b. and 1c. in the workbook.

Concept Development

Place your rectangles next to each other to make 1 long rectangle. Talk to your partner. What do you think the area of this long rectangle is? Why?

Draw this in your workbook under 2a.
What multiplication fact can help can help you find the area of this longer rectangle?

Concept Development

How can we solve this multiplication?

What are some ways we could break this apart?

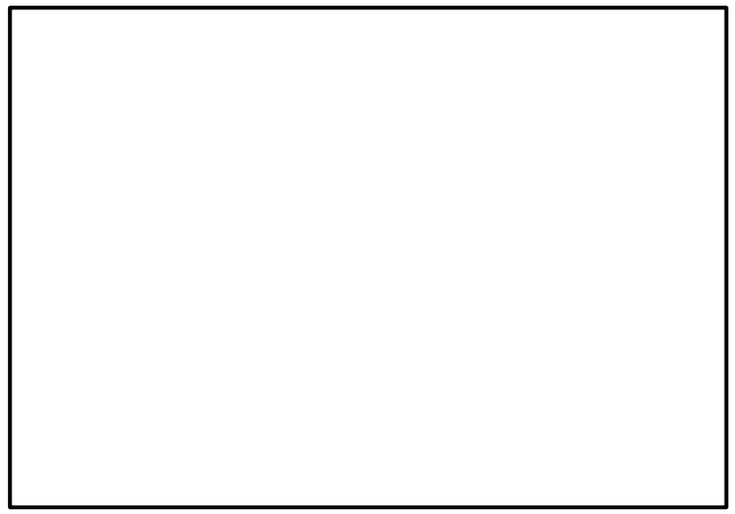
- We could think 5 times 2 tens 5 x (2 x 10)
  Choose a strategy and solve in your workbook

  5 x 20=
  5 x 10
  5 x 10

Concept Development

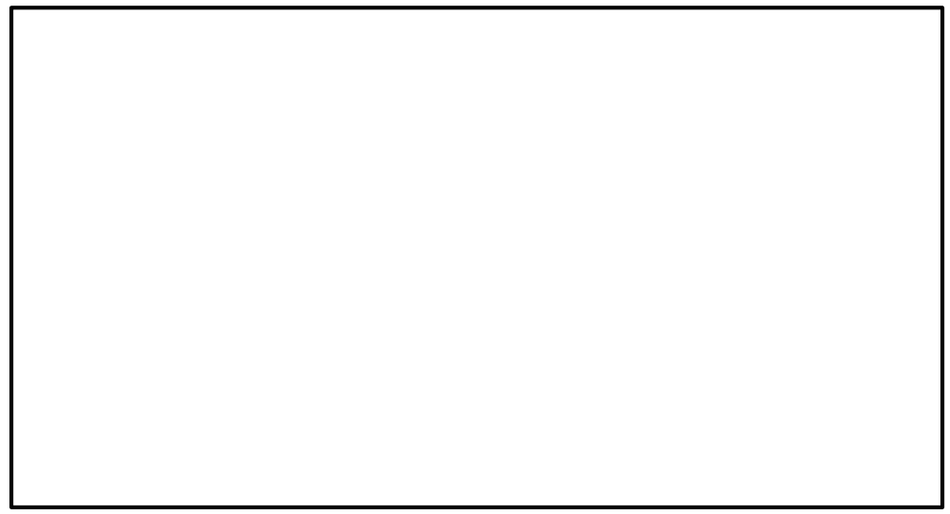
8 cm.

5 cm.



10 cm.

5 cm.

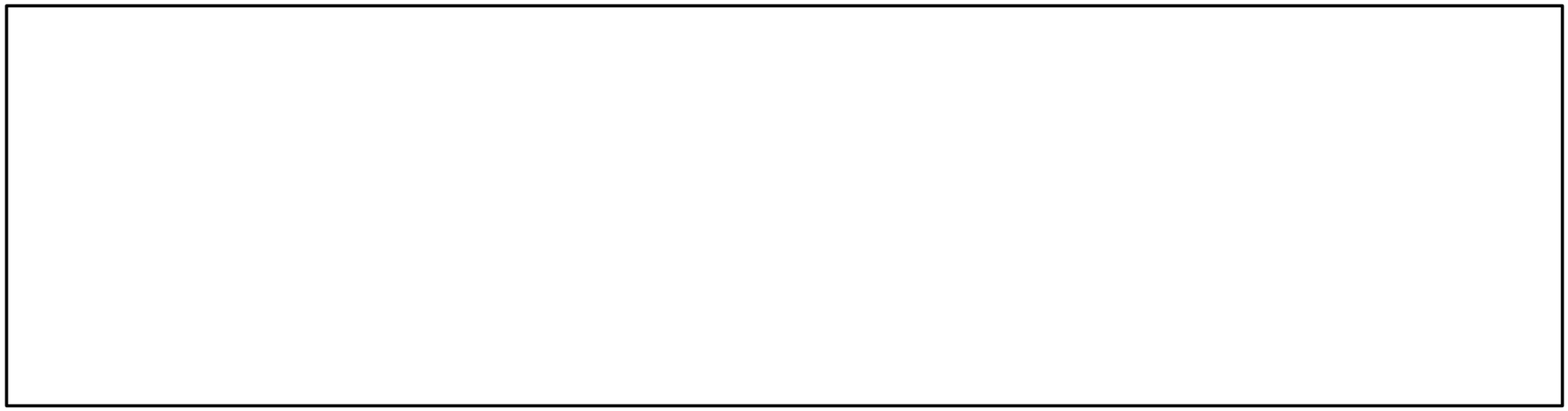


What is the area of each rectangle?
If we join the two rectangles, what would the label be for each side?

Concept Development

___cm.

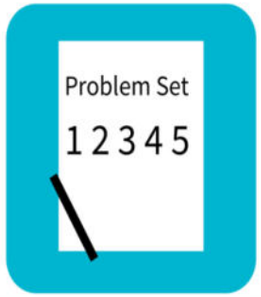
___cm.



If we join the two rectangles from the previous slide what would the label be for each side?

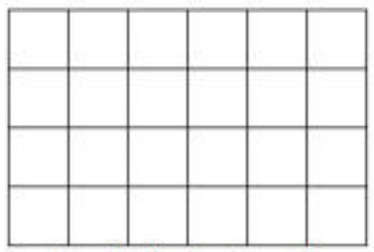
How can we use the area of the two smaller rectangles to solve the area of this larger rectangle?

What larger multiplication equation are we solving?

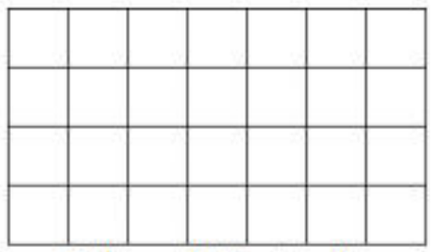


Problem Set

3. Furaha and Rahema use square tiles to make the rectangles shown below.



Furaha's Rectangle



Rahema's Rectangle

a. Label the side lengths on the rectangles above, and find the area of each rectangle.

b. Furaha pushes his rectangle next to Rahema's rectangle to form a new, longer rectangle. Draw an area model to show the new rectangle. Label the side lengths.

c. Rahema says the area of the new, longer rectangle is 52 square units. Is she right? Explain your

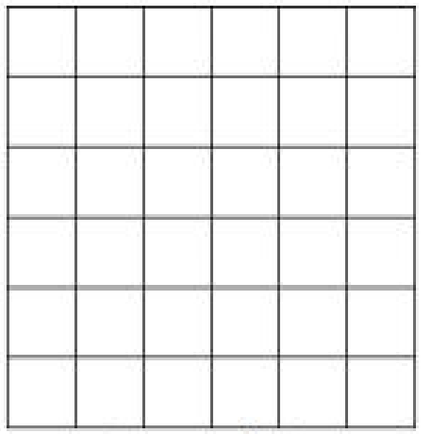
Debrief

- Talk to a partner: In Problem 1(a), how does knowing the side lengths of the grid help you find the side lengths of the small rectangles without counting?
- Did anyone use the break apart and distribute strategy to solve Problem 2(b)? Explain what you broke apart. Why did you make that choice? (Ahead of Lesson 10, which uses the distributive property, ask students how the paper rectangles show the distributive property.)
- Compare the equations you used to solve Problems 1(b) and 2(b). How are they the same? How are they different?
- Explain to a partner how you found the **length** and **width** for the new rectangle in Problem 3(b). If you labeled the width 13 and length 4, how would that change your drawing? How would that affect the area of the rectangle?
- Did anyone multiply the side lengths to solve Problem 3(c)? What strategy did you use to multiply 4×13?
- How was Problem 4 different from the other problems?

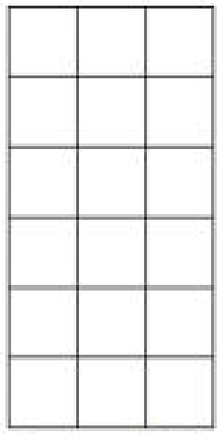
Exit Ticket

Name _____ Date _____

Lamar uses square tiles to make the 2 rectangles shown below.



Rectangle A



Rectangle B

1. Label the side lengths of the 2 rectangles.

2. Write equations to find the areas of the rectangles.

Area of Rectangle A: _____ Area of Rectangle B: _____