Eureka Math

3rd Grade
Module 4
Lesson 12

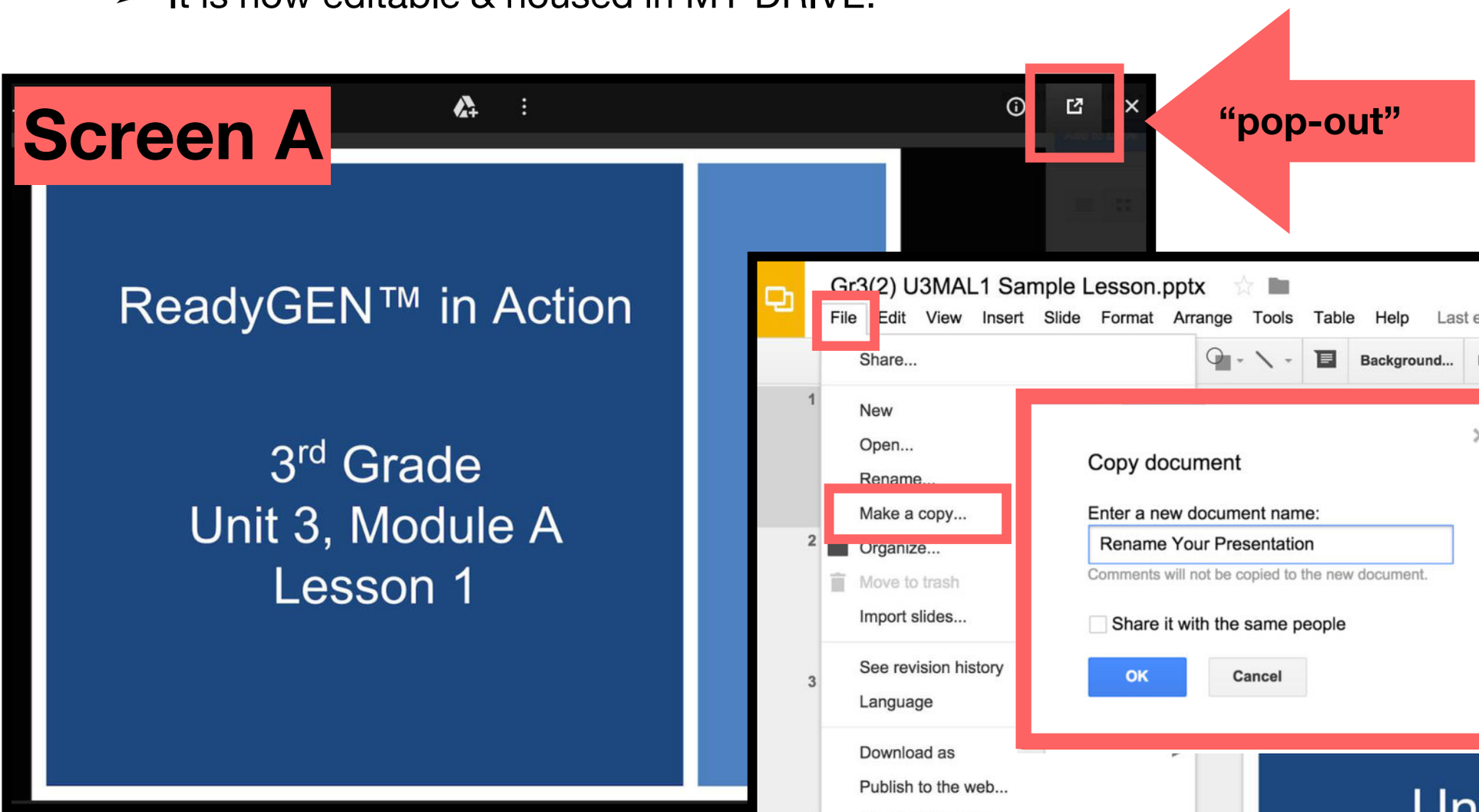
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this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

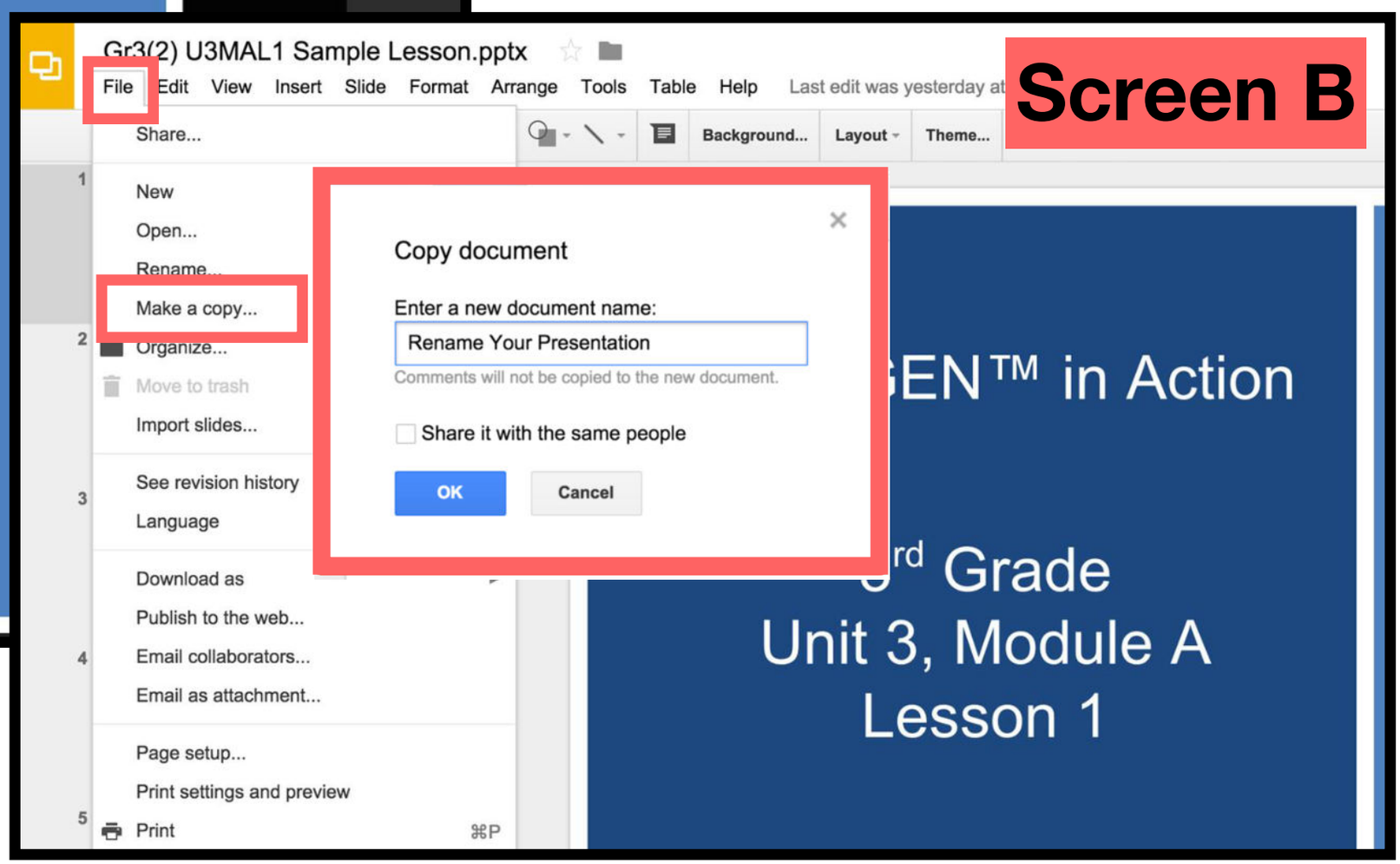
Directions for customizing presentations are available on the next slide.

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

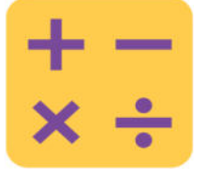
Read, Draw, Write

Learning Target

Personal White Board

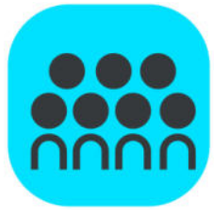
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

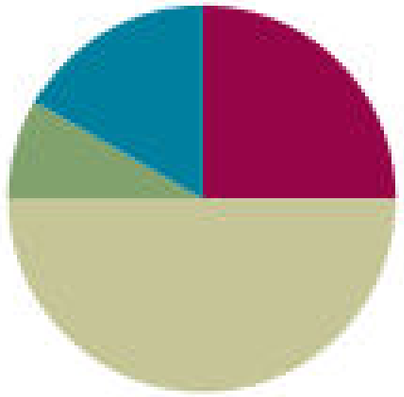
Small Group Time

Lesson 12

Objective: Solve word problems involving area.

Suggested Lesson Structure

Fluency Practice	(15 minutes)
Application Problem	(5 minutes)
Concept Development	(30 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can solve word problems using area.

Fluency Practice

Group Counting

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

- Fours to 40
- Sixes to 60
- Eights to 80
- Nines to 90

Fluency Practice

Multiply by 7

7 x 7 =

- Let's skip count to find the answer, use your fingers to keep track.

- Now let's skip count down to find the answer. Hold up 10 fingers and we are going to start with 70.

Fluency Practice

Multiply by 7 Pattern Sheet

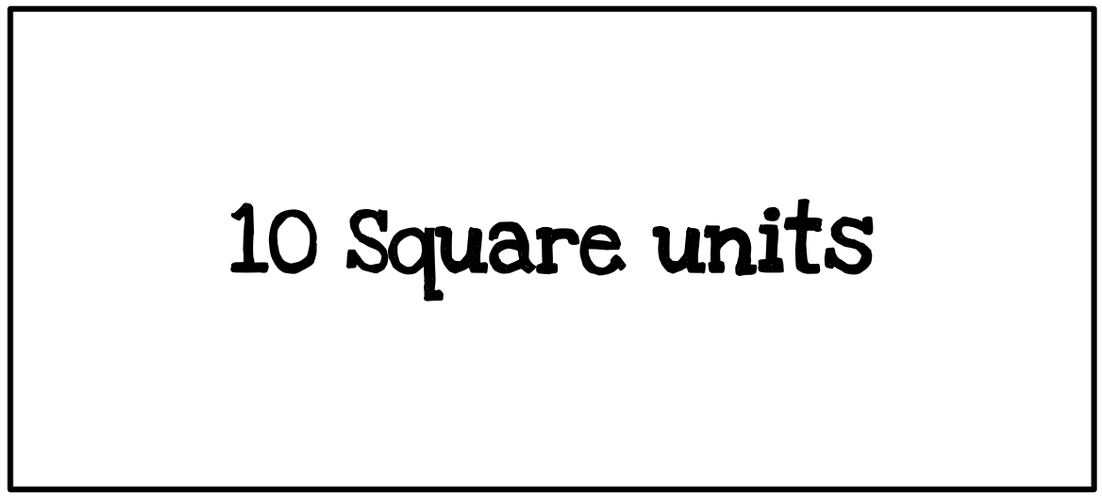
Multiply.

7 x 1 = _____	7 x 2 = _____	7 x 3 = _____	7 x 4 = _____
7 x 5 = _____	7 x 6 = _____	7 x 7 = _____	7 x 8 = _____
7 x 9 = _____	7 x 10 = _____	7 x 5 = _____	7 x 6 = _____
7 x 5 = _____	7 x 7 = _____	7 x 5 = _____	7 x 8 = _____
7 x 5 = _____	7 x 9 = _____	7 x 5 = _____	7 x 10 = _____
7 x 6 = _____	7 x 5 = _____	7 x 6 = _____	7 x 7 = _____
7 x 6 = _____	7 x 8 = _____	7 x 6 = _____	7 x 9 = _____

Fluency Practice

Find the Side Length

- Say the area of the rectangle ___ units



What's the width of the rectangle?

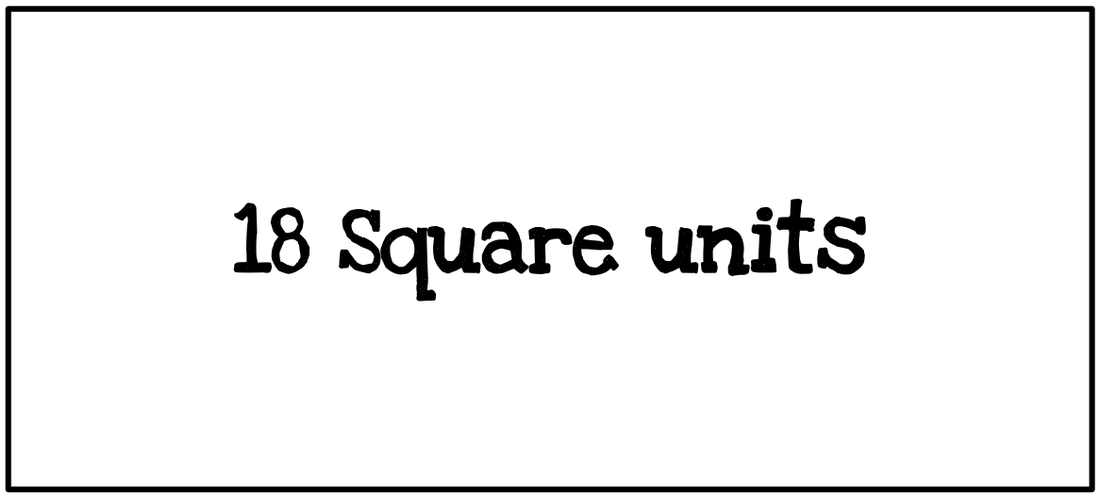
Write and fill in the blank

2 units x ___units = 10 square units

Fluency Practice

Find the Side Length

- Say the area of the rectangle ___ units



What's the width of the rectangle?

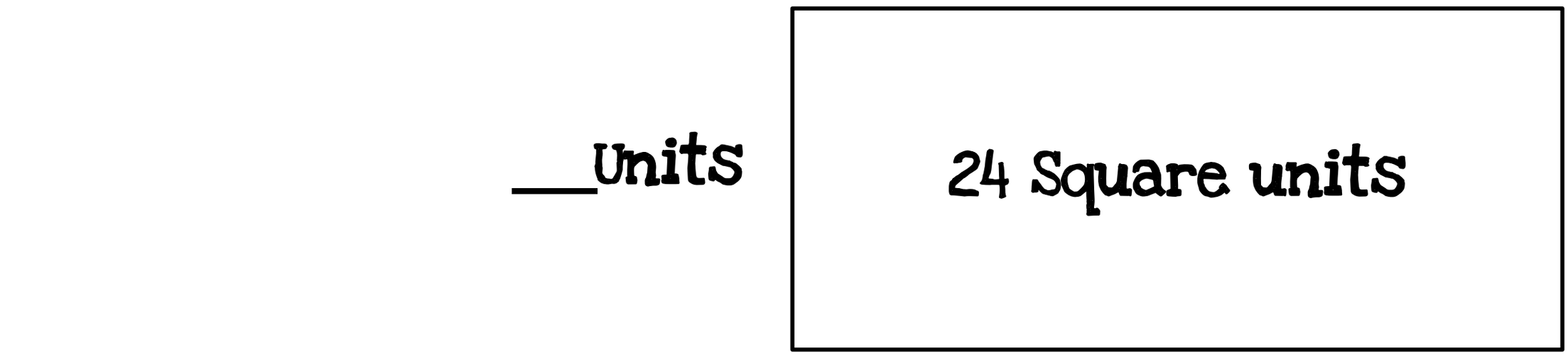
Write and fill in the blank

3 units x ___units = 18 square units

Fluency Practice

Find the Side Length

- Say the area of the rectangle



What's the width of the rectangle?

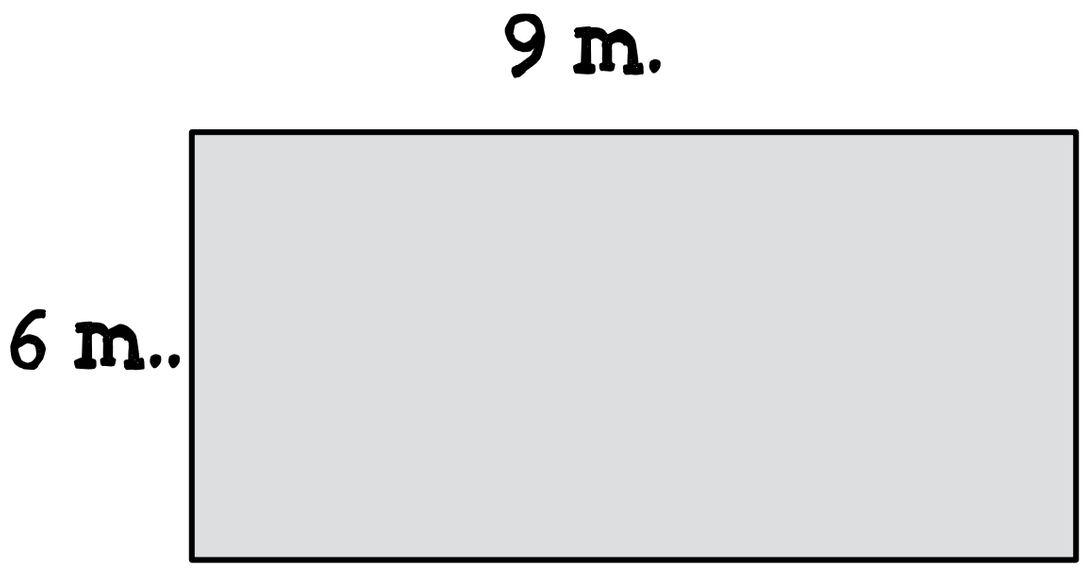
Write and fill in the blank

___ units x 6 units = 24 Square units

Application Problem

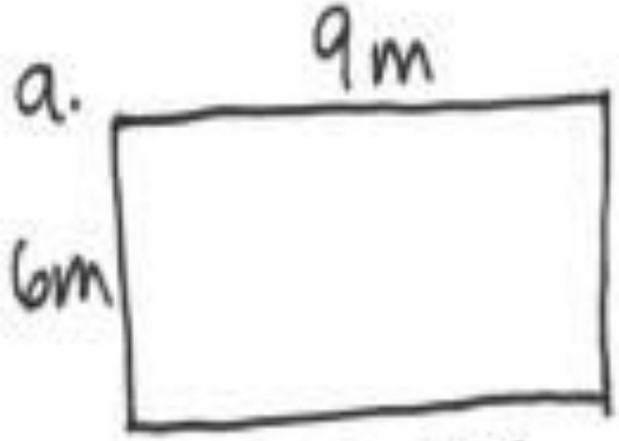
a. **Find the area of a 6 meter by 9 meter rectangle.**

b. Use the side lengths 6 m. x 9 m., to **find different side lengths** for a **rectangle that has the same area.** Show your equations **using parentheses.** Then estimate to draw the rectangle and label the side lengths.



Application Problem

a.



$6 \times 9 = 54$

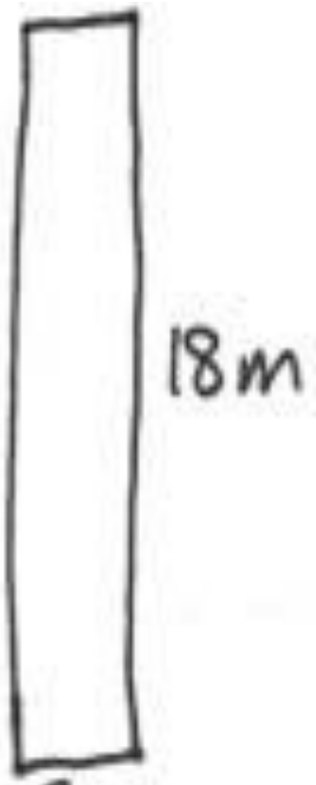
The area of the rectangle is 54 square meters.

b. $6 \times 9 = 6 \times (3 \times 3)$

$= (6 \times 3) \times 3$

$= 18 \times 3$

$= 54$



The side lengths of the rectangle are 18 meters and 3 meters.

Concept Development

Problem 1: Solve area word problems with 1 side length unknown.

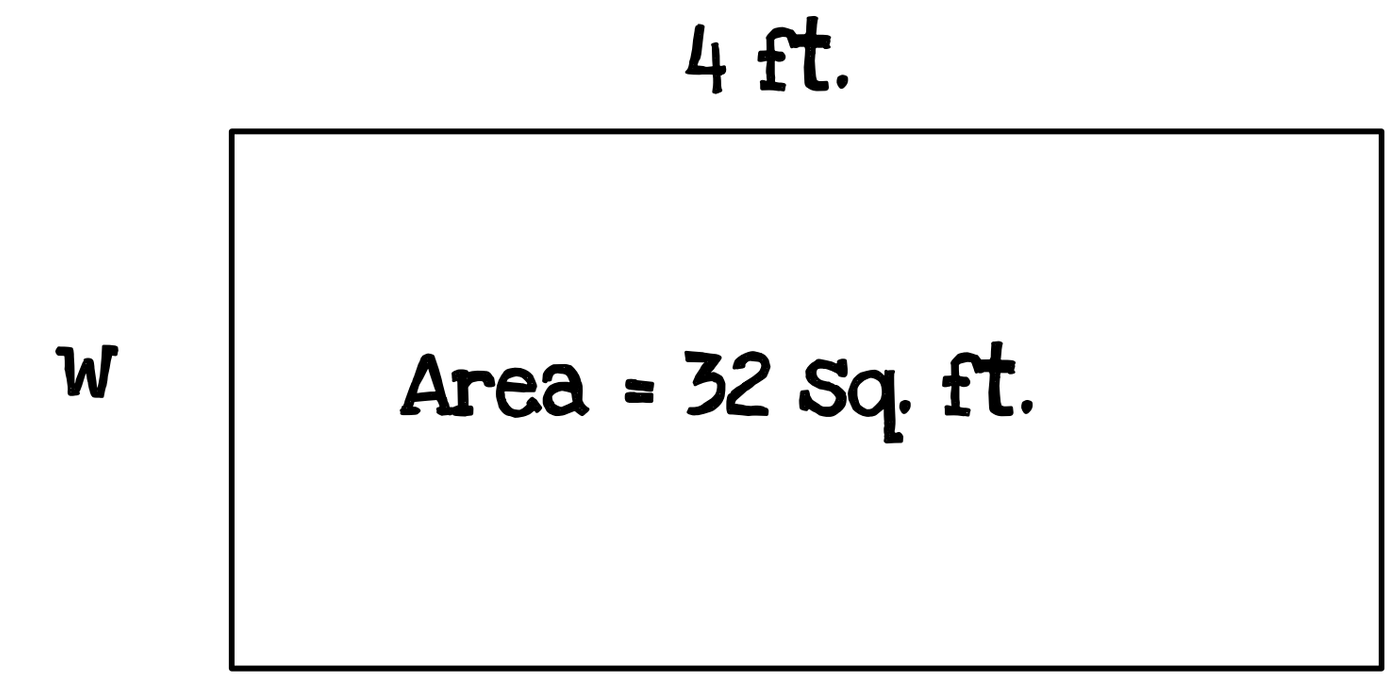
The area of Theo's banner is 32 square feet. If the length of his banner measures 4 feet, how wide is his banner?

What info. do we know?

What don't we know?

Does my model look right?

Redraw the model so it makes sense.



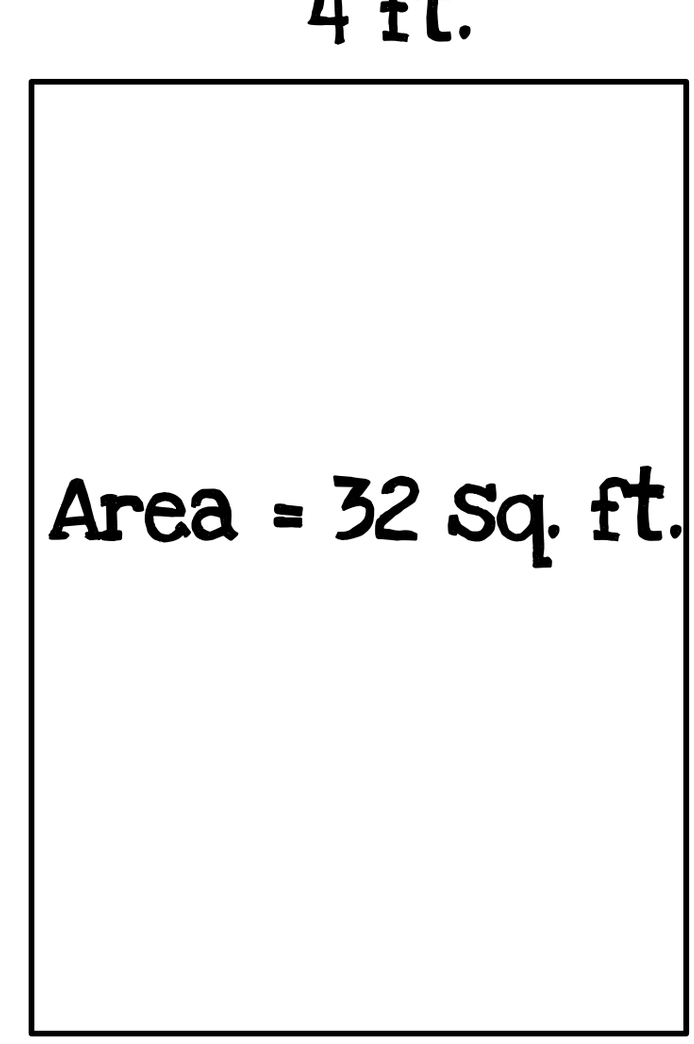
Concept Development

Problem 1: Solve area word problems with 1 side length unknown.

The area of Theo's banner is 32 square feet. If the length of his banner measures 4 feet, how wide is his banner?

How can we find the value of *w*?

Write a division equation and solve.



Concept Development

Problem 1: Solve area word problems with 1 side length unknown.

Jillian needs to draw a rectangle with an area of 56 square centimeters and a width of 7 centimeters. What is the length of the rectangle that Jilian needs to draw.

Draw the rectangle, write a division equation and solve.

Concept Development

Problem 2: Choose a strategy to find the area of a larger rectangle.

Amir is getting carpet in his bedroom, which measures 7 feet by 15 feet. How many square feet of carpet will Amir need? **Draw a rectangle to model the problem.**

How can we find the area of Amir's bedroom since the measurements are so large?

Decide on a strategy and solve.

Concept Development

Problem 2: Choose a strategy to find the area of a larger rectangle.

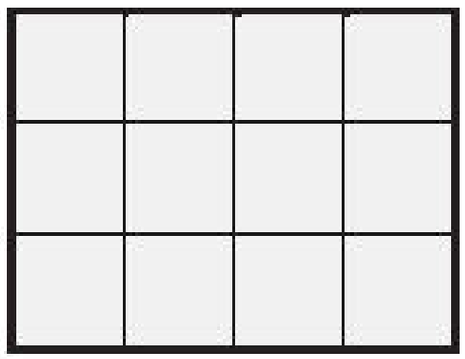
Maya helps her family tile the bathroom wall. It measures 12 feet by 11 feet. How many square foot tiles does Maya need to cover the wall. **Draw a rectangle to model the problem and solve.**

Problem Set

Name _____ Date _____

1. Each side on a sticky note measures 9 centimeters. What is the area of the sticky note?

2. Stacy tiles the rectangle below using her square pattern blocks.



Debrief

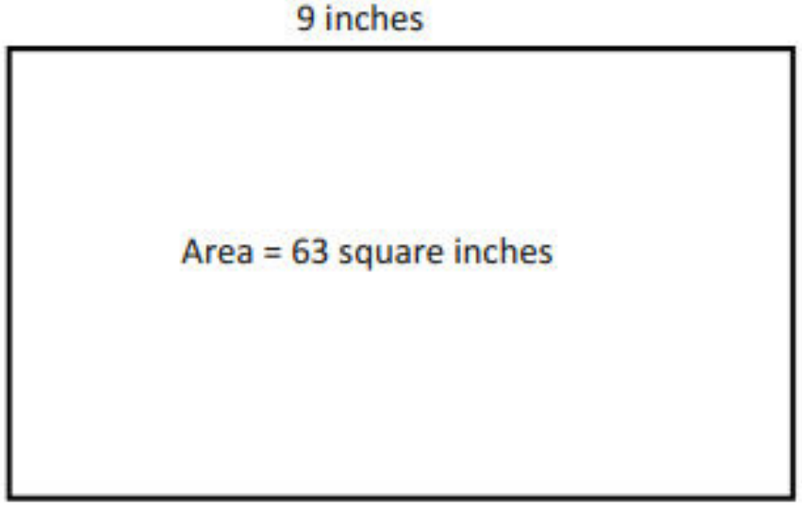
Any combination of the questions below may be used to lead the discussion.

- What shape is the sticky note in Problem 1? How do you know?
- Share student explanations to Problem 2(b).
- What is another way the artist's mural in Problem 3 could have been broken apart?
- How did you identify Alana's pattern in Problem 4?
- Discuss how you found the area of two pieces of Jermaine's paper in Problem 5. Why was it necessary to find the unknown side length first? Are there any other ways to find the area of the two pieces of paper? (81 – 27 = 54)
- How were all of today's word problems related? Does the unknown in a problem change the way you solve it? Why or why not?

Exit Ticket

Name _____ Date _____

1. A painting has an area of 63 square inches. One side length is 9 inches. What is the other side length?



2. Judy's mini dollhouse has one floor and measures 4 inches by 16 inches. What is the total area of the dollhouse floor?