

Eureka Math

3rd Grade Module 4 Lesson 11

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.



This work by Bethel School District (www.bethelsd.org) is licensed under the Creative Commons Attribution Non-Commercial Share-Alike 4.0 International License. To view a copy of this license, visit <http://creativecommons.org/licenses/by/4.0/>. Bethel School District Based this work on Eureka Math by Common Core (<http://greatminds.net/maps/math/copyright>) Eureka Math is licensed under a Creative Commons Attribution Non-Commercial-ShareAlike 4.0 License.

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.

Screen A

ReadyGEN™ in Action

3rd Grade
Unit 3, Module A
Lesson 1

“pop-out”

Screen B

Gr3(2) U3MAL1 Sample Lesson.pptx

File Edit View Insert Slide Format Arrange Tools Table Help Last edit was yesterday at

Share...

New

Open...

Rename...

Make a copy...

Organize...

Move to trash

Import slides...

See revision history

Language

Download as

Publish to the web...

Email collaborators...

Email as attachment...

Page setup...

Print settings and preview

Print

Copy document

Enter a new document name:

Rename Your Presentation

Comments will not be copied to the new document.

Share it with the same people

OK Cancel

ReadyGEN™ in Action

3rd Grade
Unit 3, Module A
Lesson 1

Icons



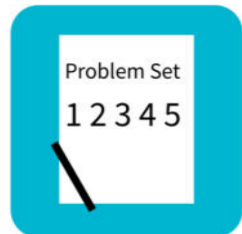
Read, Draw, Write



Learning Target



Personal White Board



Problem Set



Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



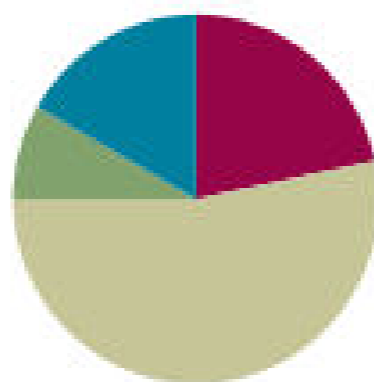
Small Group Time

Lesson 11

Objective: Demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property.

Suggested Lesson Structure

| | |
|-----------------------|---------------------|
| ■ Fluency Practice | (13 minutes) |
| ■ Application Problem | (5 minutes) |
| ■ Concept Development | (32 minutes) |
| ■ Student Debrief | (10 minutes) |
| Total Time | (60 minutes) |





I can demonstrate the possible whole number side lengths of rectangles with areas of 24, 36, 48, or 72 square units using the associative property.



Fluency Practice

Group Counting

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

- Sixes to 60
- Sevens to 70
- Eights to 80
- Nines to 90



Fluency Practice

Find the Unknown Factor

Write each equation, and fill in the unknown factor.

$$6 \times \underline{\quad} = 12$$

Do you notice a pattern?

$$4 \times \underline{\quad} = 12$$

$$2 \times \underline{\quad} = 12$$

$$3 \times \underline{\quad} = 12$$

A: These are all factors of 12.



Fluency Practice

Find the Unknown Factor

Write each equation, and fill in the unknown factor.

$$6 \times \underline{\quad} = 36$$

Do you notice a pattern?

$$3 \times \underline{\quad} = 36$$

$$9 \times \underline{\quad} = 36$$

$$4 \times \underline{\quad} = 36$$

$$12 \times \underline{\quad} = 36$$

A: These are all factors of 36.



Fluency Practice

Find the Unknown Factor

Write each equation, and fill in the unknown factor.

$$6 \times \underline{\quad} = 48$$

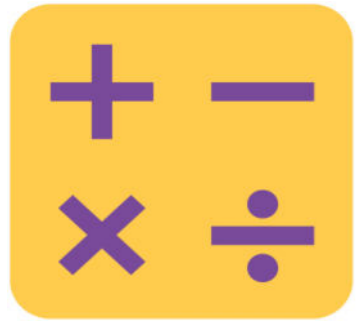
Do you notice a pattern?

$$12 \times \underline{\quad} = 48$$

$$8 \times \underline{\quad} = 48$$

$$24 \times \underline{\quad} = 48$$

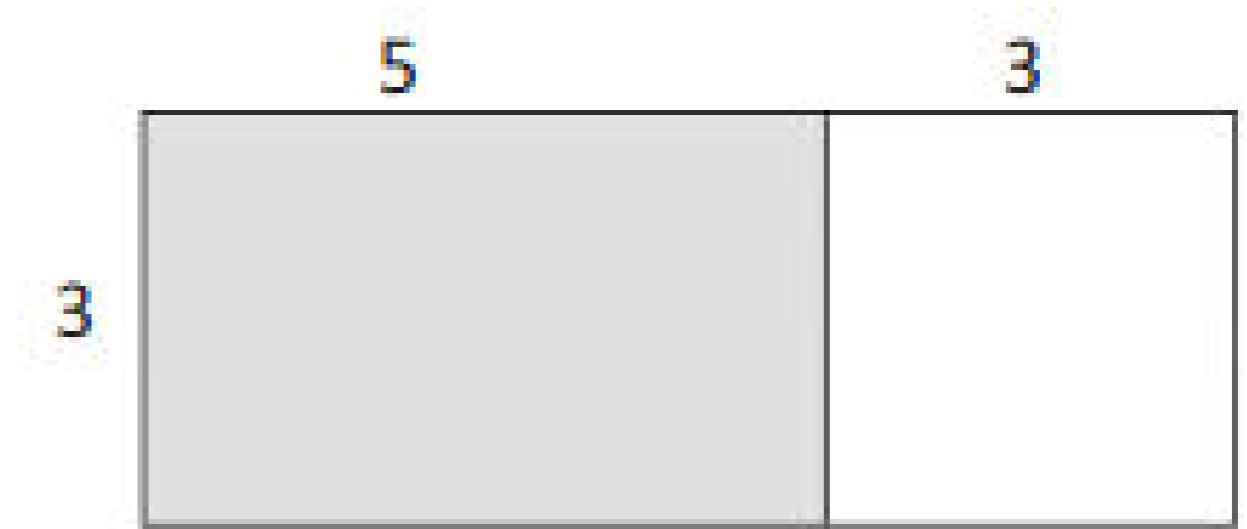
A: These are all factors of 48.



Fluency Practice

Find the Area

Write an expression to find the area of the **shaded** rectangle.

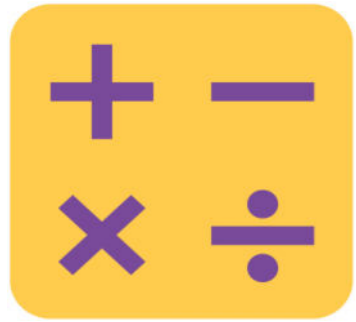


Write an expression for the **unshaded** rectangle.

Write the equations to explain this thinking:

How can we use the expression to find the area of the big rectangle?

$$\begin{aligned} & (3 \times 5) + (3 \times 3) \\ & = 15 + 9 \\ & = 24 \end{aligned}$$

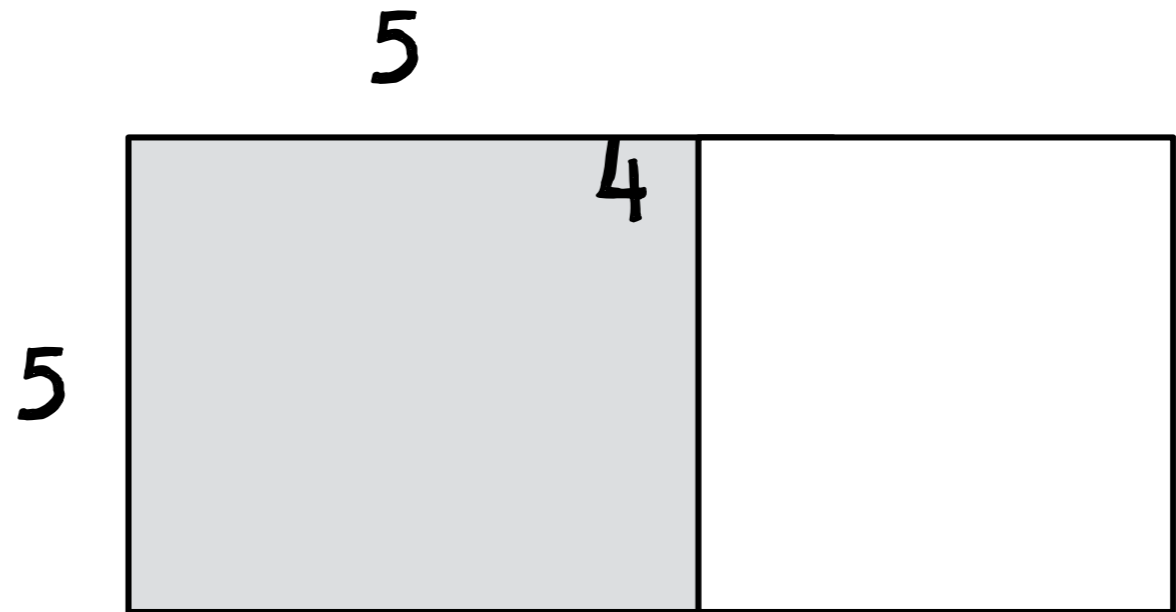


Fluency Practice

Write an expression to find the area of the shaded rectangle.

Write an expression for the unshaded rectangle.

How can we use the expression to find the area of the big rectangle?



Write the equations to explain this thinking:

$$(5 \times \underline{\quad}) + (5 \times \underline{\quad})$$

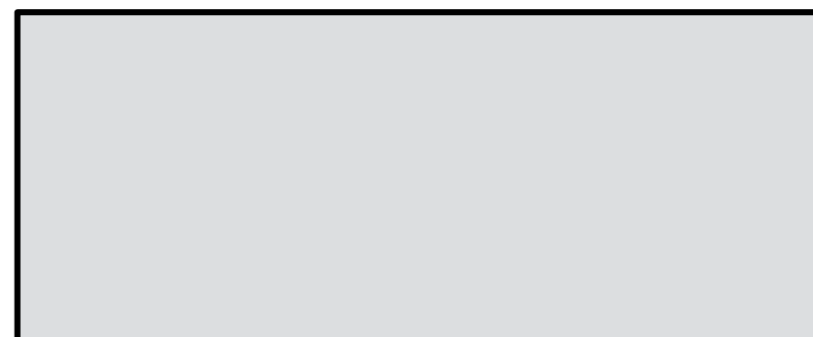
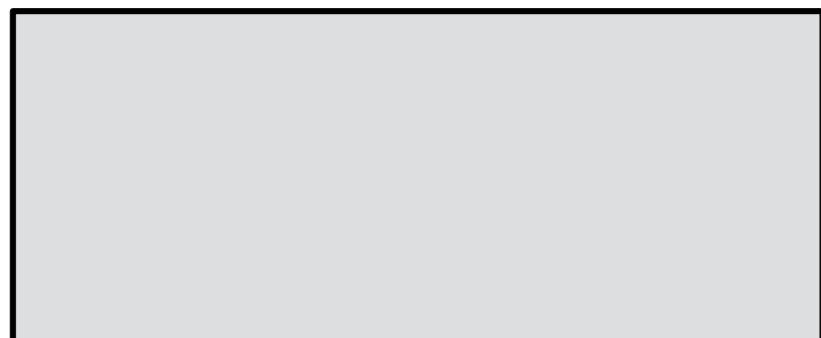


Application Problem

The banquet table in a restaurant measures 3 feet by 6 feet. For a large party, workers at the restaurant place 2 banquet tables side by side to create 1 long table. Find the area of the new, longer table.

6 ft.

3
ft.





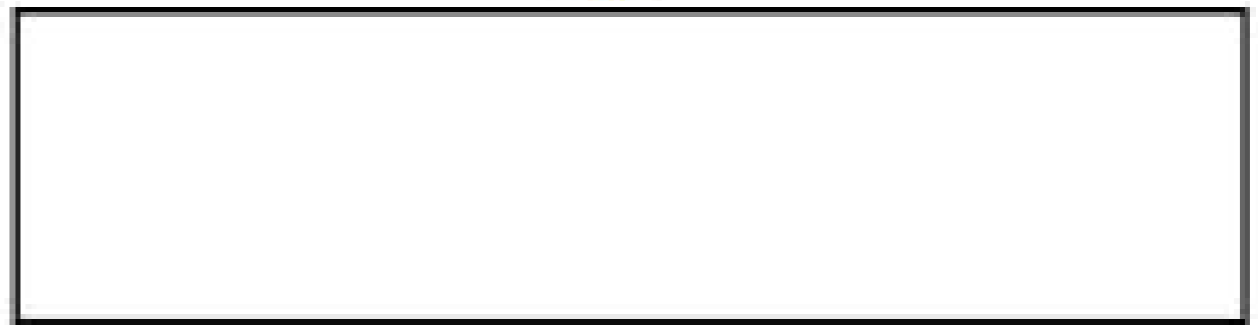
Concept Development

On your whiteboards:

Write an expression to find the area of this rectangle and solve.

3

12



- Write $3 \times 2 \times 6$
- Put the parentheses in a different spot than I did.

$$3 \times (2 \times 6)$$

Why is this expression equal to the one you just wrote?

$$(3 \times 2) \times 6 = 6 \times 6$$

What new side lengths did we find for a rectangle with an area of 36 square units?



Concept Development

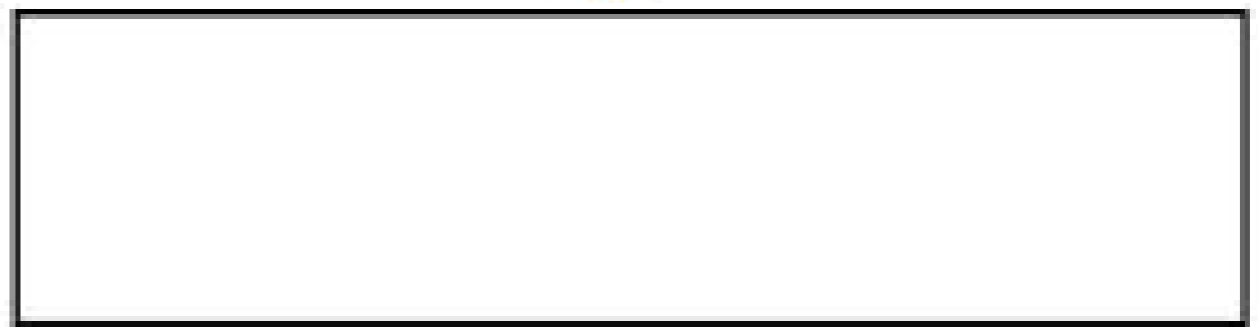
On your whiteboards:

Look at the expression

$$(3 \times 2) \times 6$$

- Use the commutative property to switch the order of the factors in the parentheses.

3



12

- $(2 \times 3) \times 6$

$$(2 \times 3) \times 6 \\ = 6 \times 6$$

What new side lengths did we find for a rectangle with an area of 36 square units?



Concept Development

On your whiteboards:

- Will you be able to find new side lengths by moving the parentheses?

$$(2 \times 3) \times 6$$

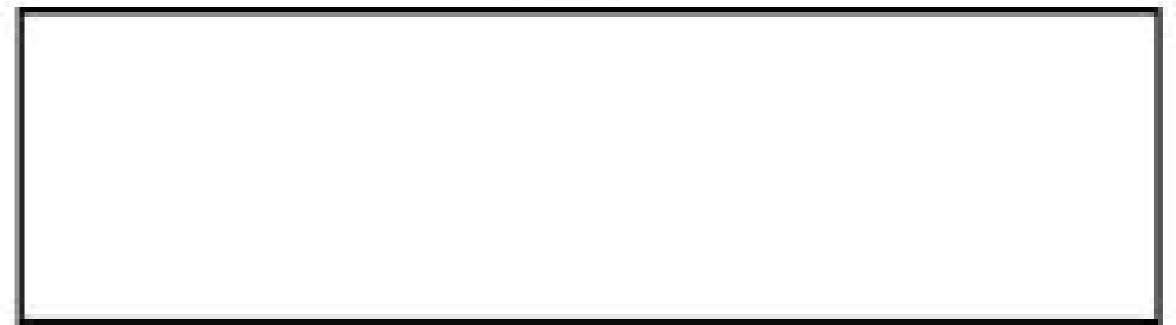
- $2 \times (3 \times 6)$

How is the following like our first equation?

- $3 \times (3 \times 4)$

12

3



- Write $3 \times 3 \times 4$
- Put the parentheses in a different spot than I did.

$$(3 \times 3) \times 4 \\ = 9 \times 4$$

What new side lengths did we find for a rectangle with an area of 36 square units?



Concept Development

On your whiteboards:

Have we found **all** the whole number side lengths for a rectangle that has **36 square units?**

Let's review:

$$3 \times 12$$

$$6 \times 6$$

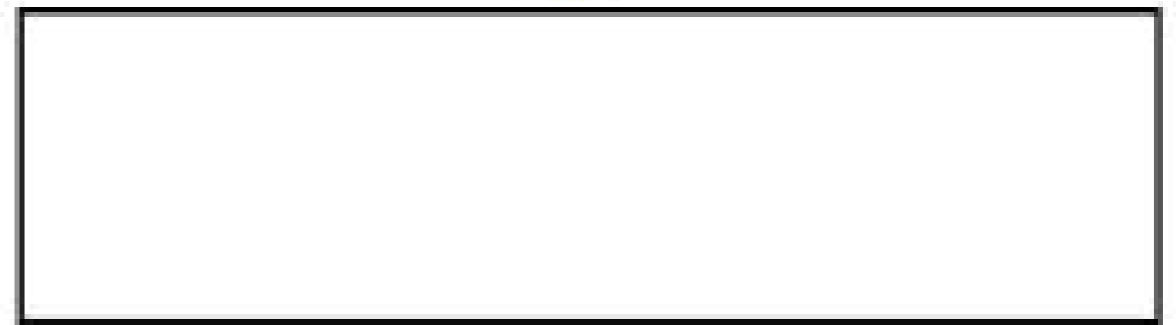
$$2 \times 18$$

$$9 \times 4$$

Do we have a side length of 1?

12

3



Work with your partner to look at the rest of your side lengths to see if you have the numbers 4 through 10.



Concept Development

On your whiteboards:

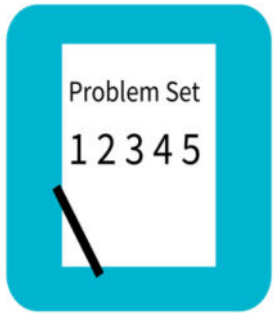
Can you find all the side lengths for the following rectangle?

You may want to draw all the different rectangles.

6

4



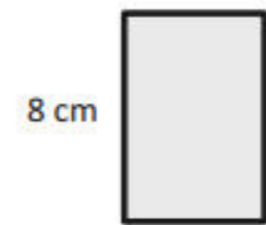


Problem Set

Name _____ Date _____

1. The rectangles below have the same area. Move the parentheses to find the unknown side lengths. Then, solve.

a. 6 cm



8 cm

Area: $8 \times \underline{\hspace{1cm}} = \underline{\hspace{1cm}}$

Area: $\underline{\hspace{1cm}}$ sq cm

b. _____ cm



1 cm

Area: $1 \times 48 = \underline{\hspace{1cm}}$

Area: $\underline{\hspace{1cm}}$ sq cm

Area: $8 \times 6 = (2 \times 4) \times 6$

$= 2 \times 4 \times 6$

$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$

$= \underline{\hspace{1cm}}$

Area: $\underline{\hspace{1cm}}$ sq cm

d. _____ cm



4 cm

Area: $8 \times 6 = (4 \times 2) \times 6$

$= 4 \times 2 \times 6$

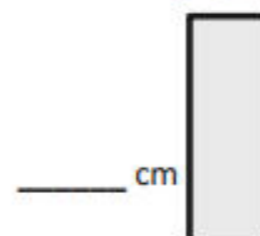
$= \underline{\hspace{1cm}} \times \underline{\hspace{1cm}}$

c. _____ cm



2 cm

e. _____ cm



_____ cm

Area: $8 \times 6 = 8 \times (2 \times 3)$

$= 8 \times 2 \times 3$

Debrief

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

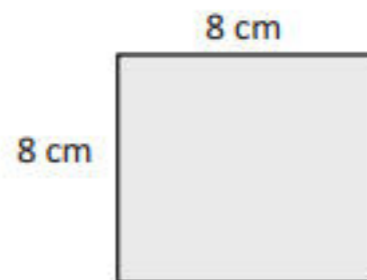
- Turn your paper horizontally and look at Problem 1. What property does this show?
- Share your answer to Problem 2 with a partner.
- Discuss your answer to Problem 4 with a partner. What would the rectangle look like if the difference between side lengths was 0? How do you know?
- Compare your answer to Problem 4(c) with a partner's. Did you both come up with the same side lengths? Why or why not?
- Explain to a partner how to use the strategy we learned today to find all possible **whole number** side lengths for a rectangle with an area of 60 square units.

Exit Ticket

Name _____

Date _____

1. Find the area of the rectangle.



2. The rectangle below has the same area as the rectangle in Problem 1. Move the parentheses to find the unknown side lengths. Then, solve.



$$\begin{aligned} \text{Area: } 8 \times 8 &= (4 \times 2) \times 8 \\ &= 4 \times 2 \times 8 \\ &= \underline{\quad} \times \underline{\quad} \\ &= \underline{\quad} \\ \text{Area: } \underline{\quad} &\text{ sq cm} \end{aligned}$$