Eureka Math

4th Grade
Module 3
Lesson 11

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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.
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- ➢ Choose MAKE A COPY and rename your presentation.
- ➢ Google Slides will open your renamed presentation.
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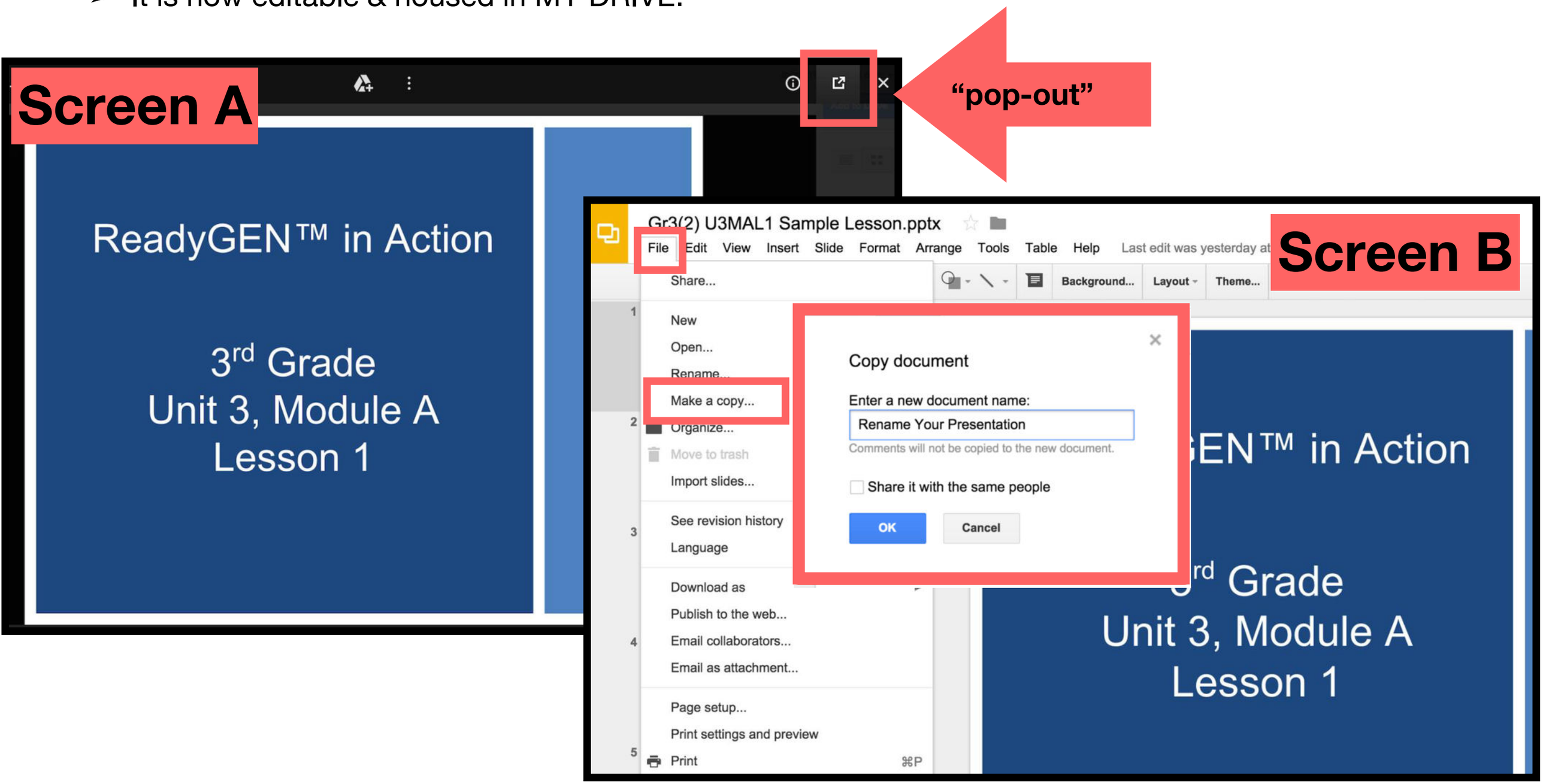
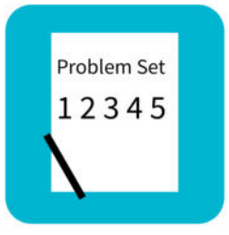


Icons

Read, Draw, Write

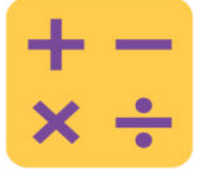
Learning Target

Personal White Board



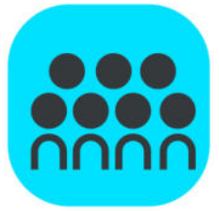
Problem Set

Manipulatives Needed



Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

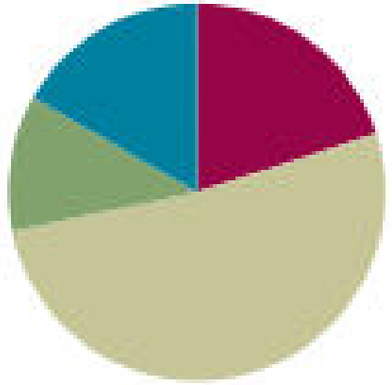
Small Group Time

Lesson 11

Objective: Connect the area model and the partial products method to the standard algorithm.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(7 minutes)
Concept Development	(31 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



I can connect the area model and the partial products methods to the standard algorithm.

Fluency Practice

Multiply Mentally

4,312 x 2 = ____

Use partial products to solve.

Fluency Practice

Multiply Mentally

4,312 x 2 = _____

2 x 2 = _____

10 x 2 = _____

300 x 2 = _____

4,000 x 2 = _____

Fluency Practice

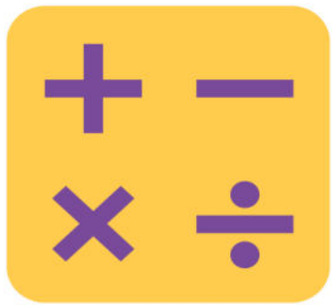
Multiply Mentally

Repeat the process for

2,032 x 3 =

2,212 x 4 =

3,203 x 4 =



Fluency Practice

Multiply in Three Different Ways

43 x 2

Say the multiplication expression in unit form.

Fluency Practice

Multiply in Three Different Ways

43 x 2

Show the multiplication expression in unit form

(40 x 2) + (3 x 2)

Fluency Practice

Multiply in Three Different Ways

43 x 2

Show the multiplication expression using place value disks

Fluency Practice

Multiply in Three Different Ways

43 x 2

Show the multiplication expression using the standard algorithm

Fluency Practice

Multiply in Three Different Ways

Repeat the process for the following problems.

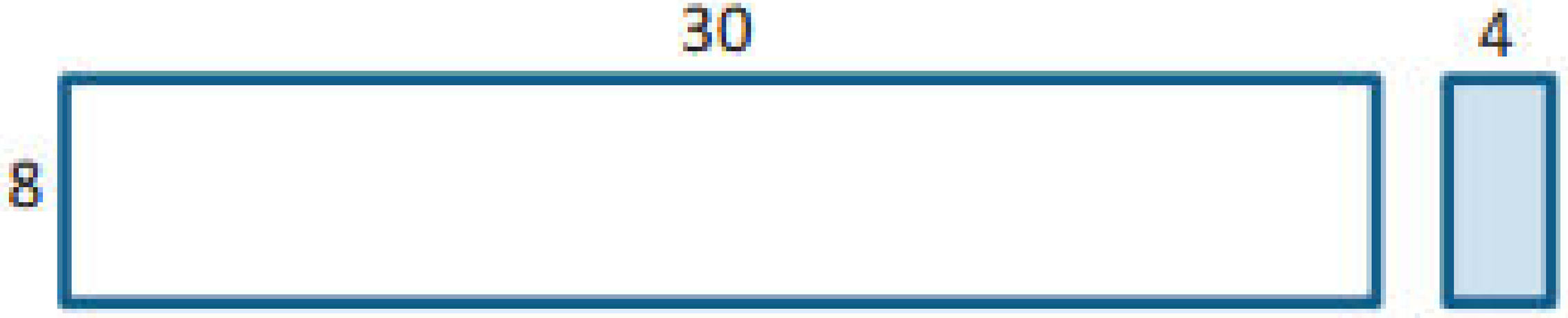
partial products ** place value disks ** algorithm

54 x 2

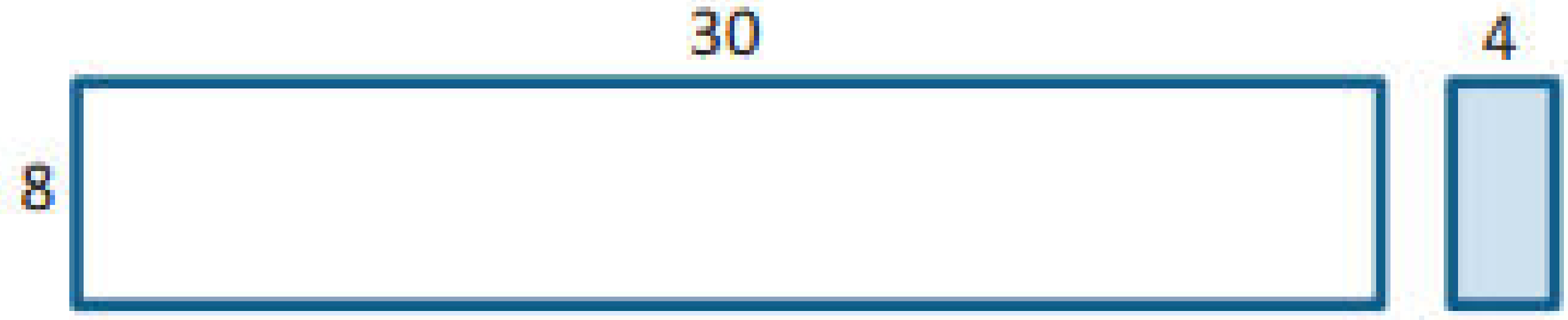
63 x 3

Application Problem

Write an equation for the area of each rectangle. Then, find the sum of the two areas.



Application Problem



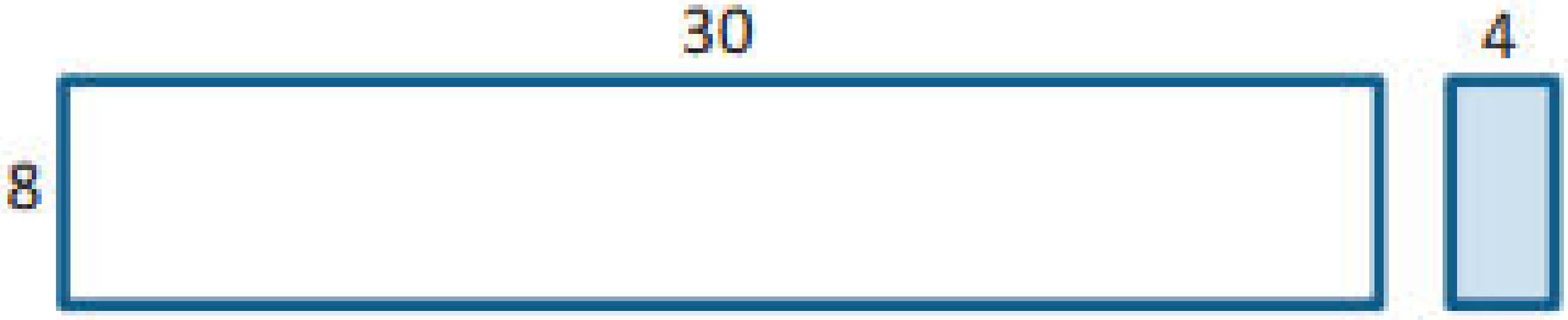
$A = 8 \times 30$ $A = 8 \times 4$

$A = 240$ $A = 32$

$$\begin{array}{r} 240 \\ +\ 32 \\ \hline 272 \end{array}$$

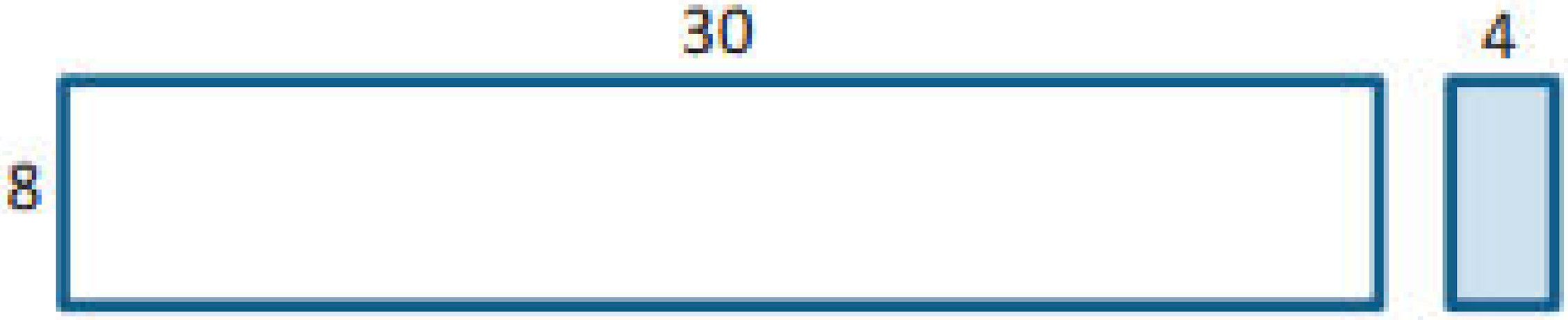
The area of the combined rectangles is 272.

Application Problem



Can you find a faster method for finding the area of the combined rectangles?

Application Problem



$A = 8 \times (30 + 4)$

$A = 8 \times 34$

$$\begin{array}{r} 34 \\ \times\ 8 \\ \hline 272 \end{array}$$

Concept Development

Materials

(S) Personal white boards

Concept Development

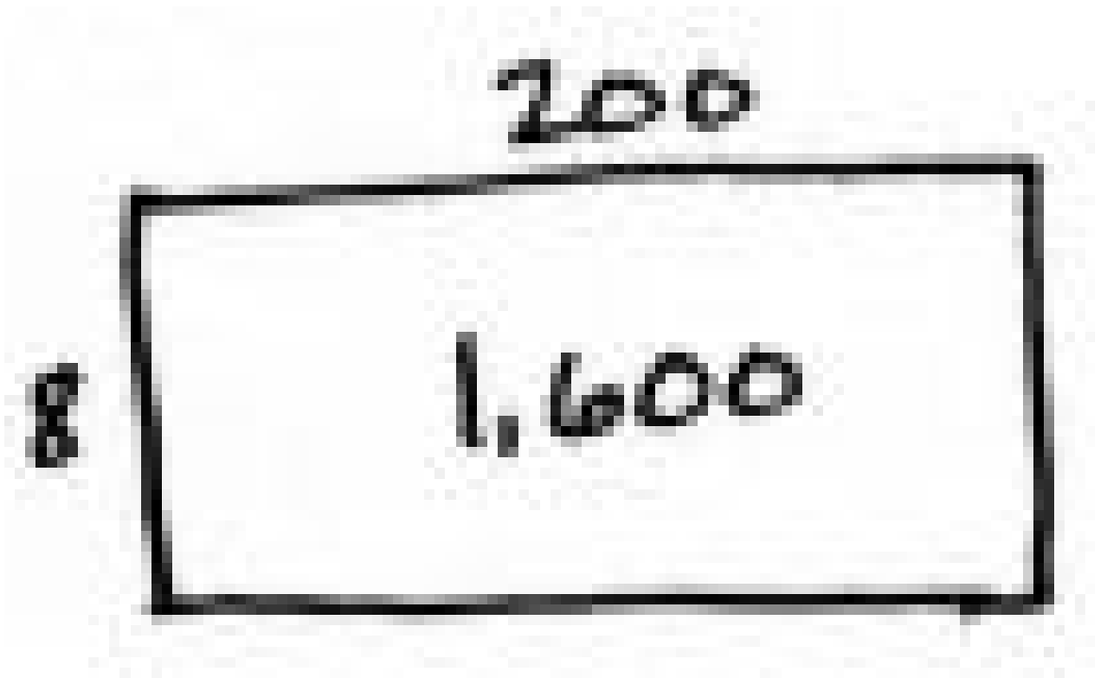
Problem 1:

Draw a rectangle with a width of 8 and a length of 200

Concept Development

Problem 1:

Draw a rectangle with a width of 8 and a length of 200



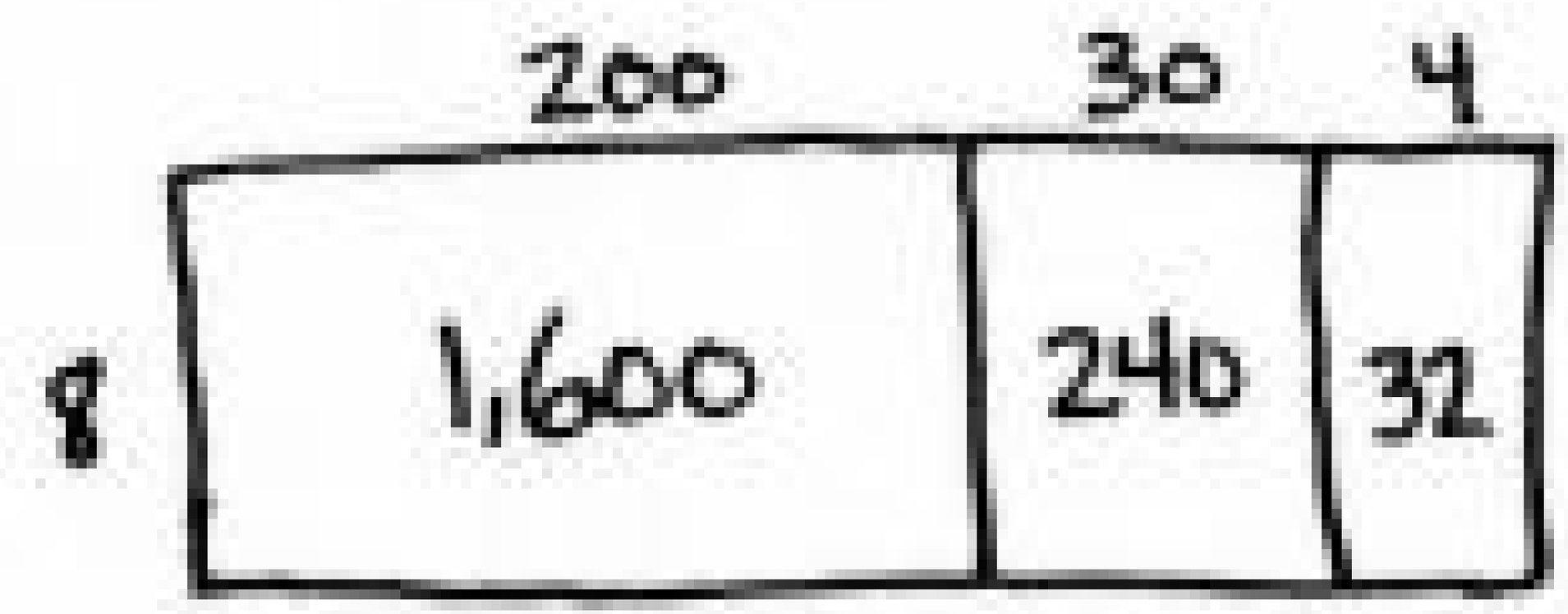
Concept Development

Problem 1:

Think back to the Application Problem with the rectangles.

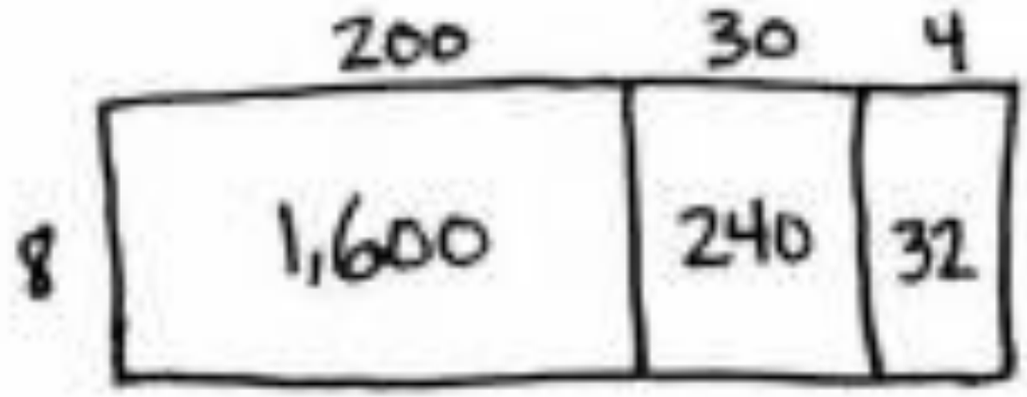
Let's combine all three rectangles.

Discuss how to find the area of all three rectangles together.



Concept Development

Problem 1:



234

x 8

1,600

240

+ 32

1,872

8 (200 + 30 + 4)

(8 x 200) + (8 x 30) + (8 x 4)

Concept Development

Problem 2:

316 x 4

Concept Development

Problem 2:

316 x 4

Tell how many hundreds, tens, and ones are in 316

Concept Development

Problem 2:

316 x 4

Tell how many hundreds, tens, and ones are in 316

Concept Development

Problem 2:

316 x 4

Draw an area model with a length of 3 hundreds, 1 ten, 6 ones, and a width of 4.

Concept Development

Problem 2:

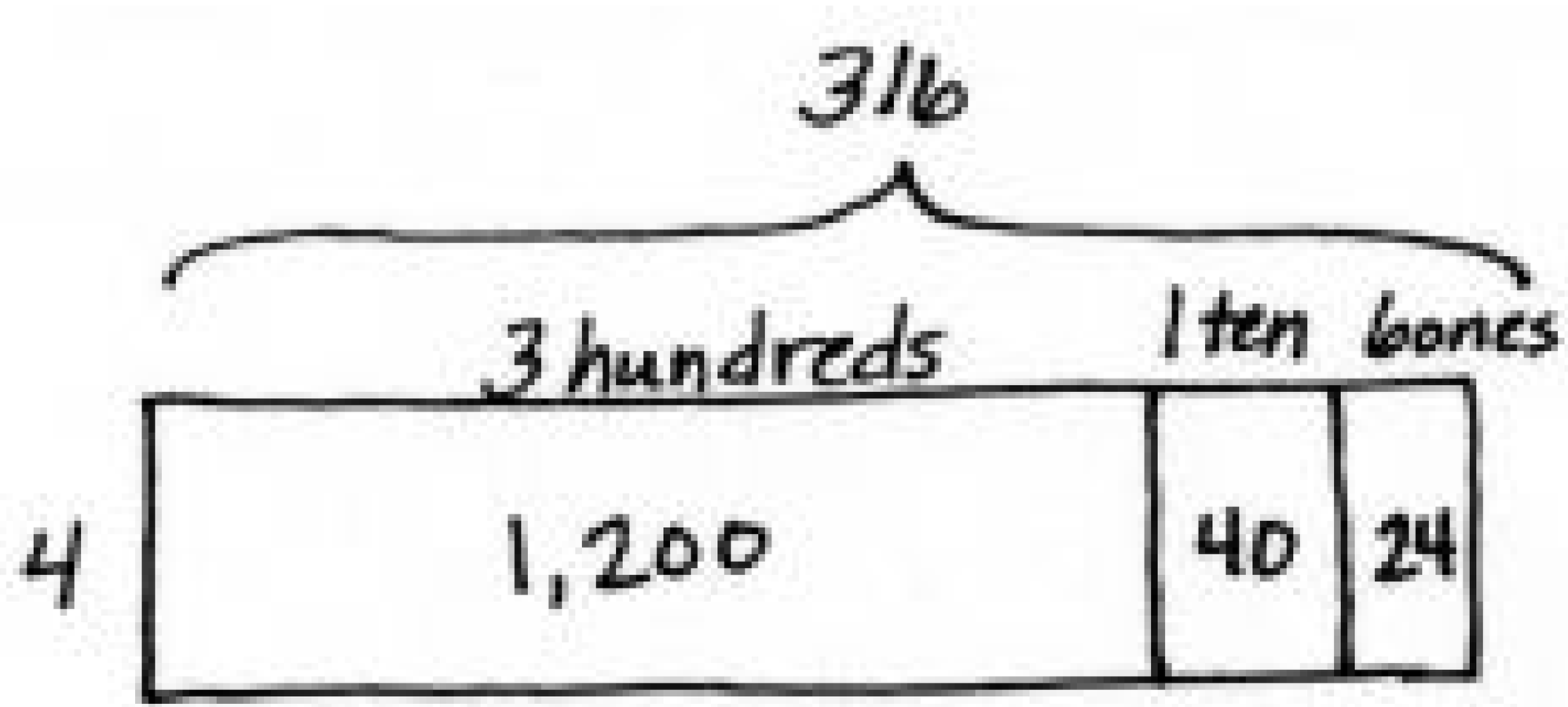
316 x 4

Draw an area model with a length of 3 hundreds, 1 ten, 6 ones, and a width of 4.

Tell your partner how to solve using the area model.

Concept Development

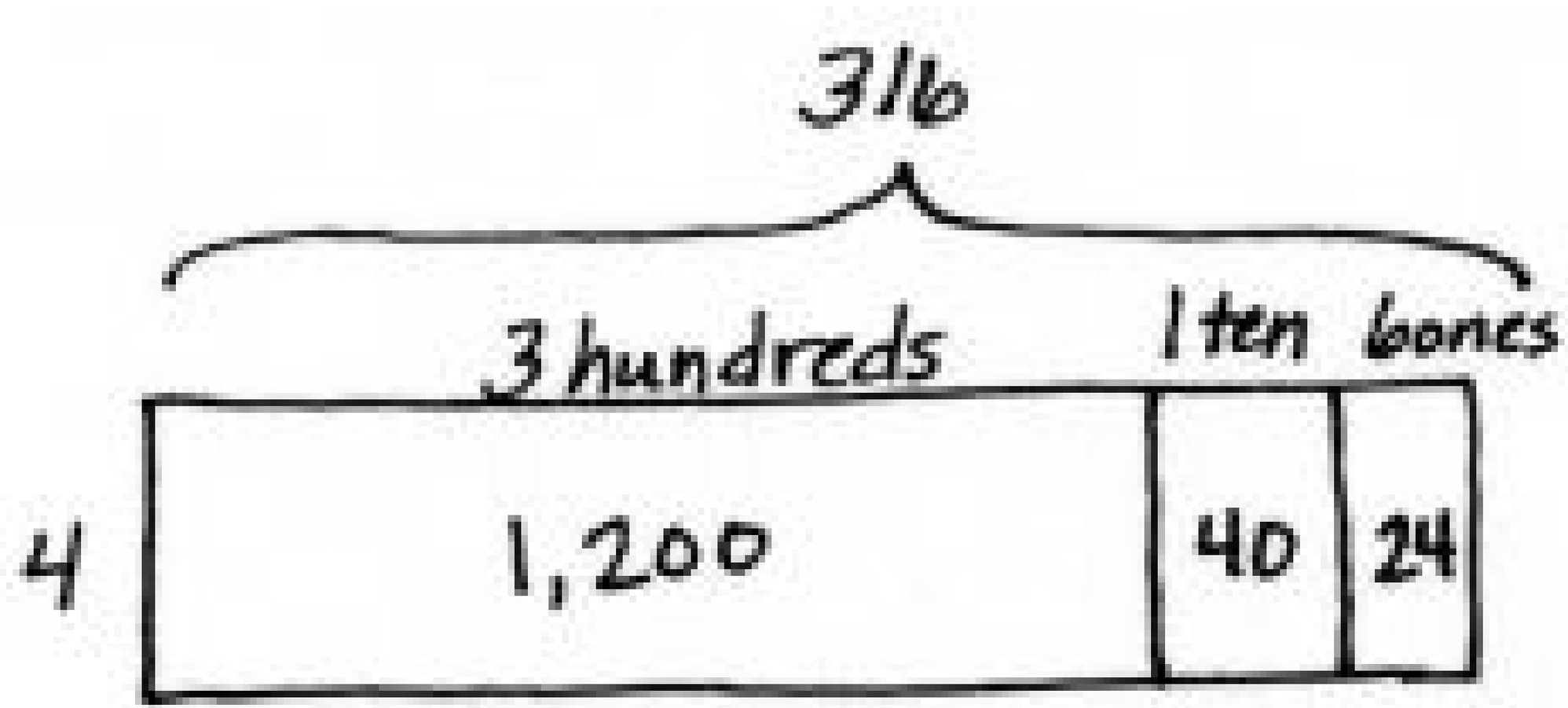
Problem 2: **316 x 4**



Concept Development

Problem 2:

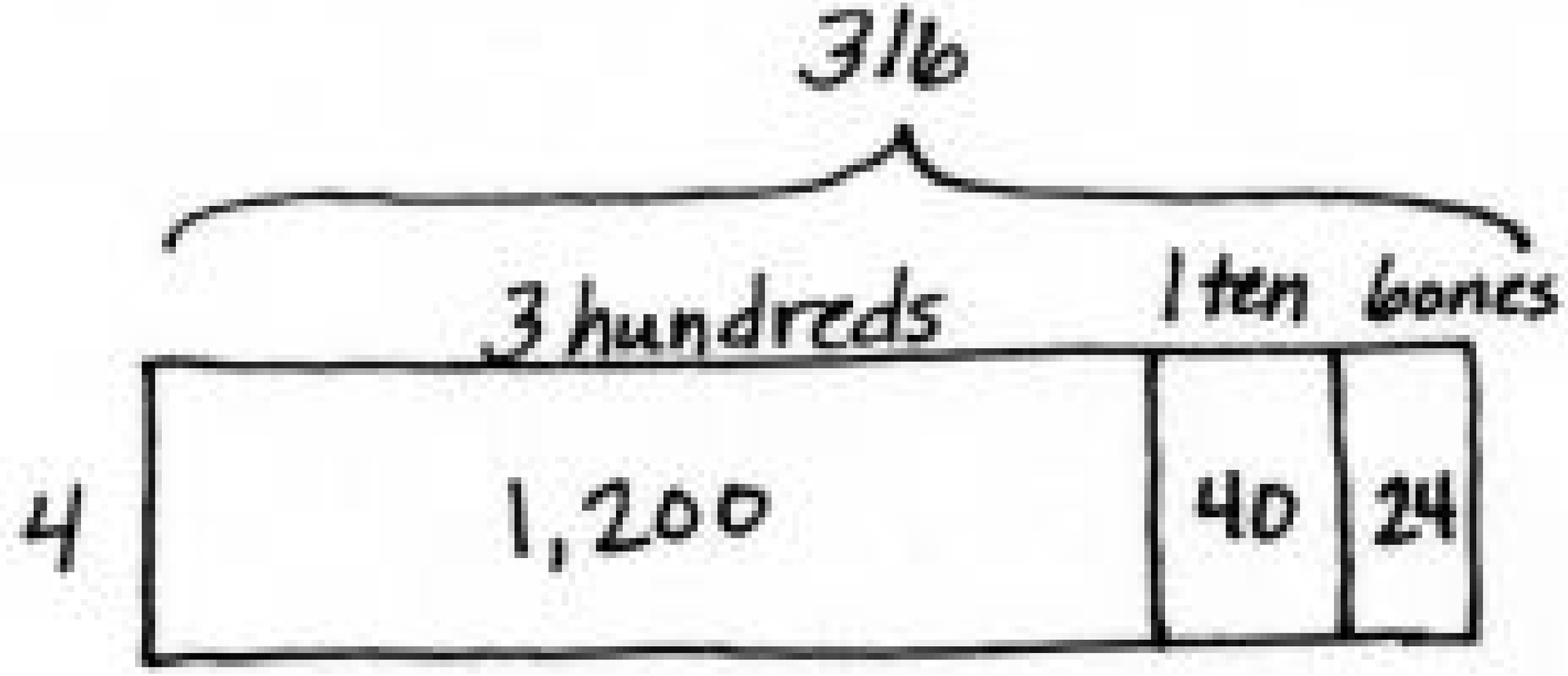
This is the Distributive Property!



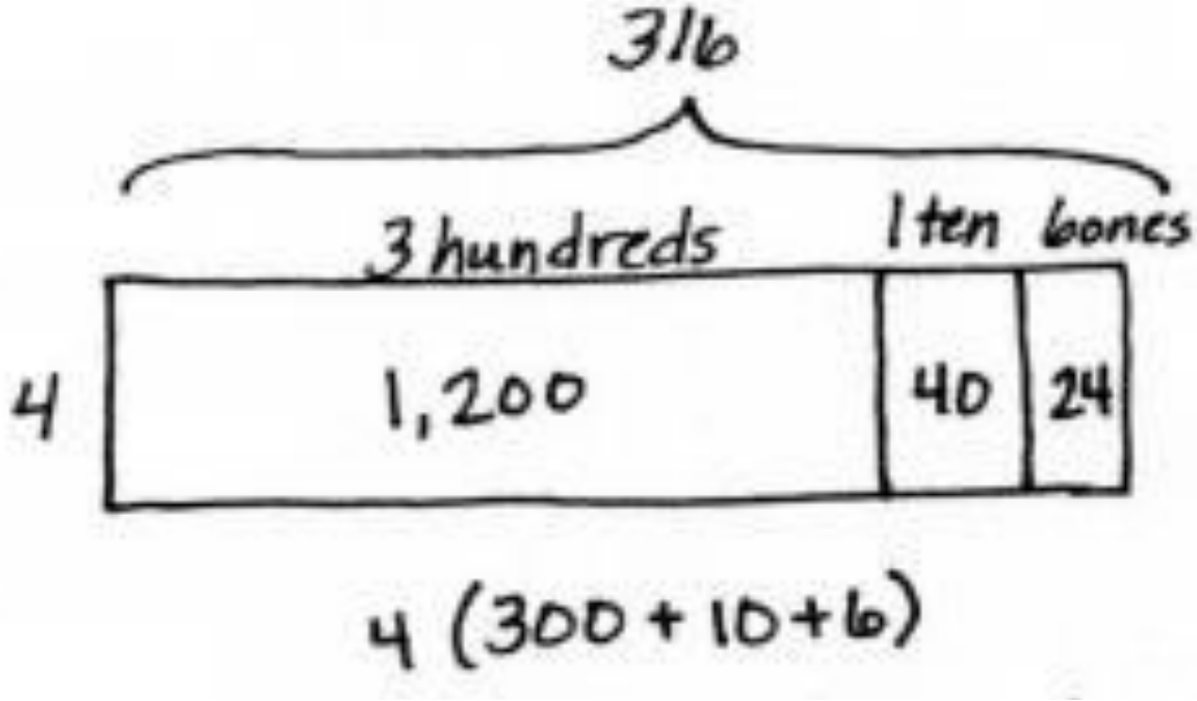
Concept Development

Problem 2:

Break apart the multiplication problem into three smallers ones



Concept Development



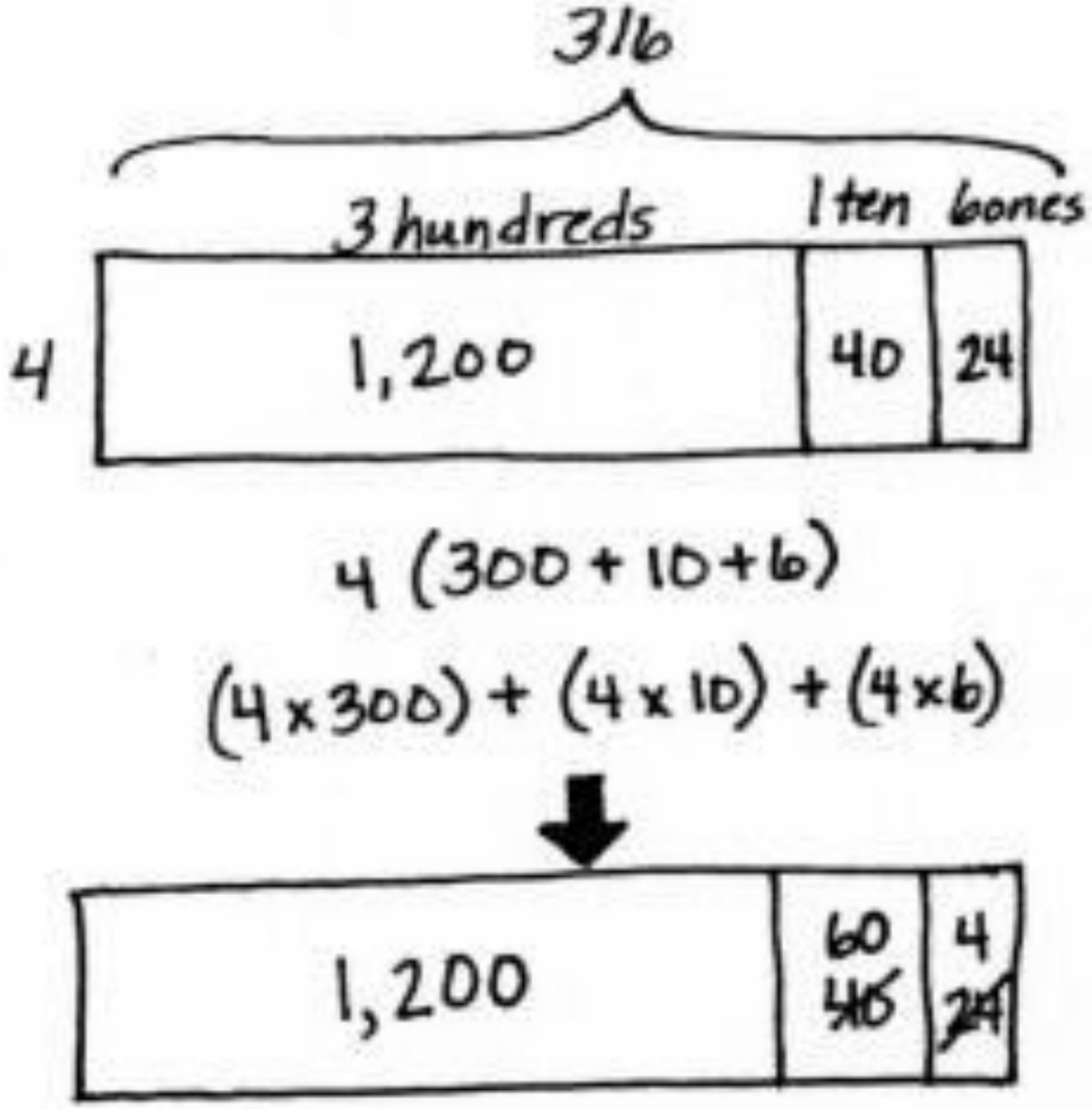
316
x 4
1,200
40
+ 24
1,264

Concept Development

Problem 2:

Solve 314 x 4 using the standard algorithm

Concept Development



316
x 4
1,200
40
+ 24
1,264

316
x 4
1,264

Concept Development

Repeat with 5,463 x 5, drawing the area model and comparing it to the algorithm or the partial products method.

Concept Development

Problem 3:

A cafeteria makes 4,408 lunches each day. How many lunches are made Monday through Friday?

Concept Development

Problem 3:

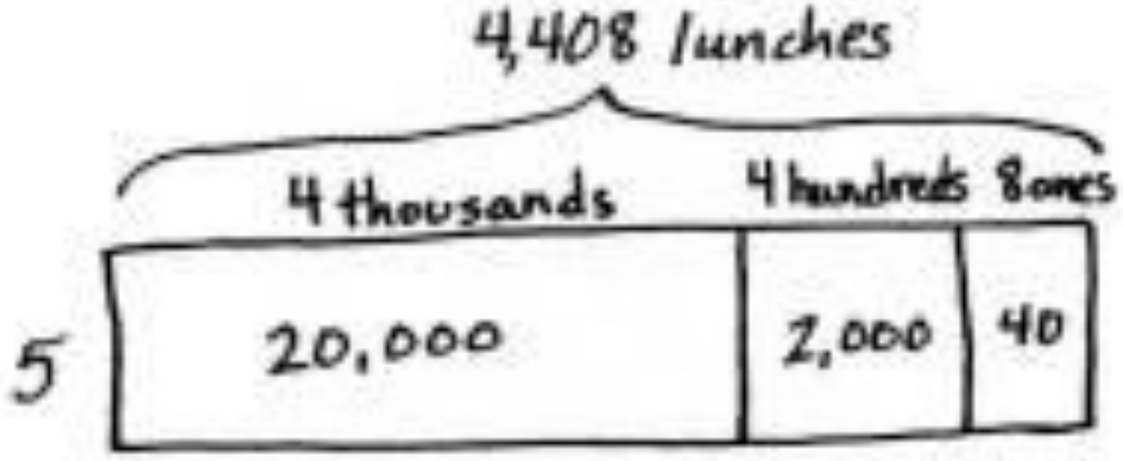
A cafeteria makes 4,408 lunches each day. How many lunches are made Monday through Friday?

Discuss with your partner how to solve this problem. What are some methods you could use to solve this?

Concept Development

Problem 3:

A cafeteria makes 4,408 lunches each day. How many lunches are made Monday through Friday?



$5(4{,}000 + 400 + 8)$

$(5 \times 4{,}000) + (5 \times 400) + (5 \times 8)$

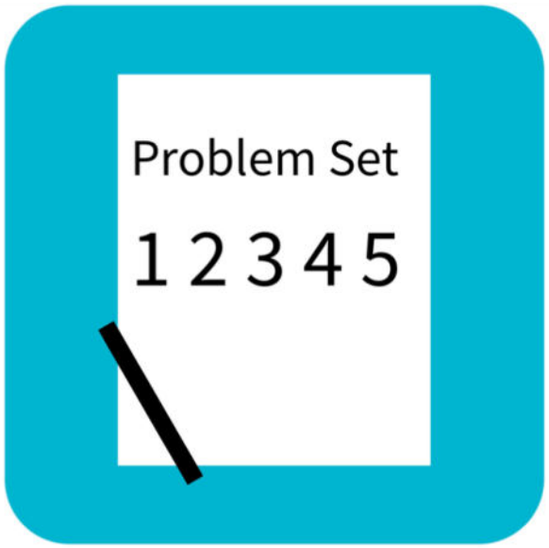
$20{,}000 + 2{,}000 + 40$

$22{,}040$

$$\begin{array}{r} 4{,}408 \\ \times \quad 5 \\ \hline 40 \\ 2{,}000 \\ +\ 20{,}000 \\ \hline 22{,}040 \end{array}$$

$$\begin{array}{r} 4{,}408 \\ \times \quad 5 \\ \hline 22{,}040 \end{array}$$

22,040 lunches were made Monday through Friday.

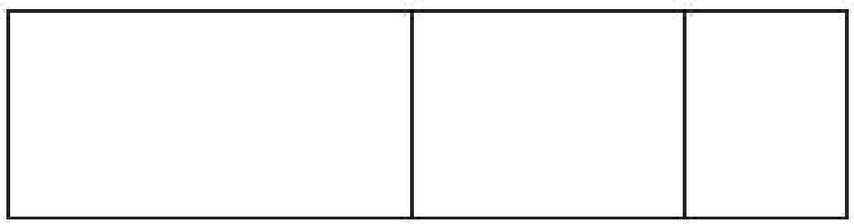


Problem Set

Name _____ Date _____

1. Solve the following expressions using the standard algorithm, the partial products method, and the area model.

a. 4 2 5 × 4



4 (400 + 20 + 5)

(4 × _____) + (4 × _____) + (4 × _____)

Debrief

Can you solve any of the expressions in Problem 1 using a different method or strategy?

In Problem 1, how does the area model connect to the expressions written below the area model? How could the distributive property be used to solve problems without drawing the area model?

For Problems 4—6, which method(s) did you choose and why?

How did the Application Problem introduce today's lesson?

How is finding the area of a rectangle similar to finding the product using the area model?

Exit Ticket

Name _____ Date _____

1. Solve using the standard algorithm, the area model, the distributive property, or the partial products method.

   2,809 × 4