

Eureka Math

4th Grade Module 3 Lesson 11

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Directions for customizing presentations are available on the next slide.



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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.

The image shows a transition from a presentation viewer (Screen A) to an editor (Screen B). Screen A is a blue slide with the text "ReadyGEN™ in Action", "3rd Grade", "Unit 3, Module A", and "Lesson 1". A red box labeled "Screen A" is in the top left. A red arrow labeled "pop-out" points from the top right corner of the viewer to the top right corner of the editor. Screen B is the same slide but in edit mode. A red box labeled "Screen B" is in the top right. The "File" menu is open, and the "Make a copy..." option is highlighted with a red box. A "Copy document" dialog box is open, with the text "Rename Your Presentation" in the input field. The "OK" button is highlighted with a red box.

Icons



Read, Draw, Write



Learning Target



Personal White Board



Problem Set



Manipulatives Needed



Fluency



Think Pair Share



Whole Class



Individual



Partner



Small Group



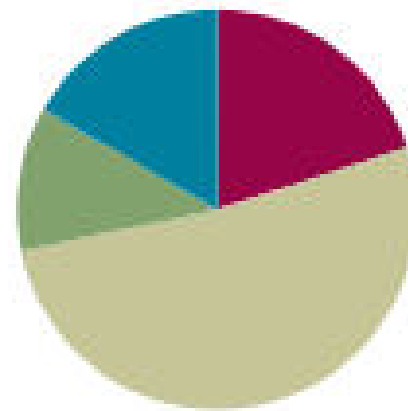
Small Group Time

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

$$4,312 \times 2 = \underline{\quad}$$

Use partial products to solve.



Fluency Practice

Multiply Mentally

$$4,312 \times 2 = \underline{\hspace{2cm}}$$

$$2 \times 2 = \underline{\hspace{2cm}}$$

$$10 \times 2 = \underline{\hspace{2cm}}$$

$$300 \times 2 = \underline{\hspace{2cm}}$$

$$4,000 \times 2 = \underline{\hspace{2cm}}$$



Fluency Practice

Multiply Mentally

Repeat the process for

$$2,032 \times 3 =$$

$$2,212 \times 4 =$$

$$3,203 \times 4 =$$



Fluency Practice

Multiply in Three Different Ways

$$43 \times 2$$

**Say the multiplication expression
in **unit form**.**



Fluency Practice

Multiply in Three Different Ways

$$43 \times 2$$

**Show the multiplication expression
in **unit form****

$$(40 \times 2) + (3 \times 2)$$



Fluency Practice

Multiply in Three Different Ways

$$43 \times 2$$

**Show the multiplication expression
using **place value disks****



Fluency Practice

Multiply in Three Different Ways

$$43 \times 2$$

**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

$$54 \times 2$$

$$63 \times 3$$

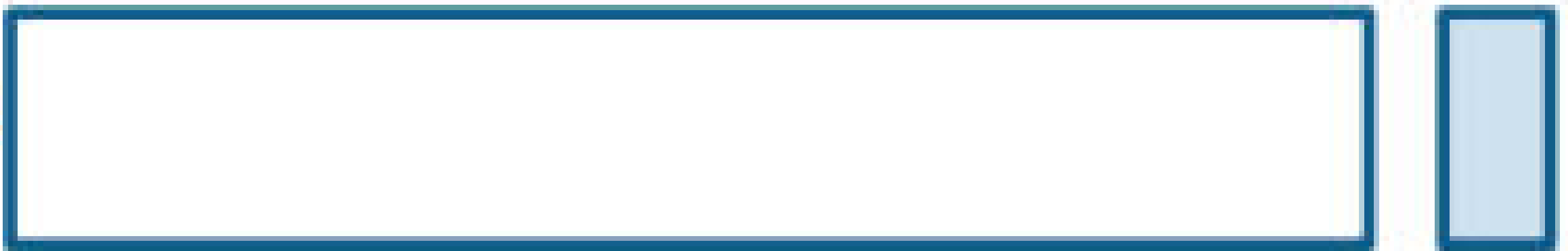
Application Problem

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

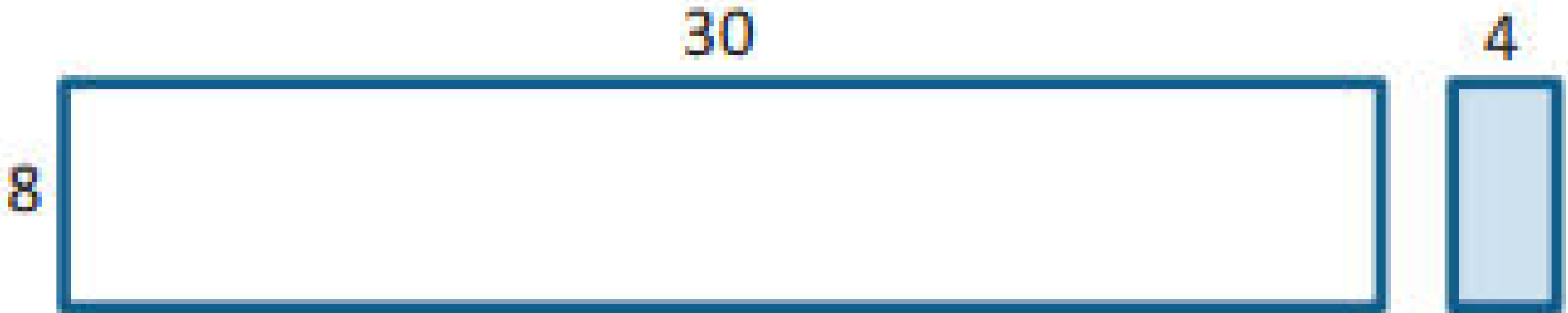
30

4

8



Application Problem



$$A = 8 \times 30$$

$$A = 240$$

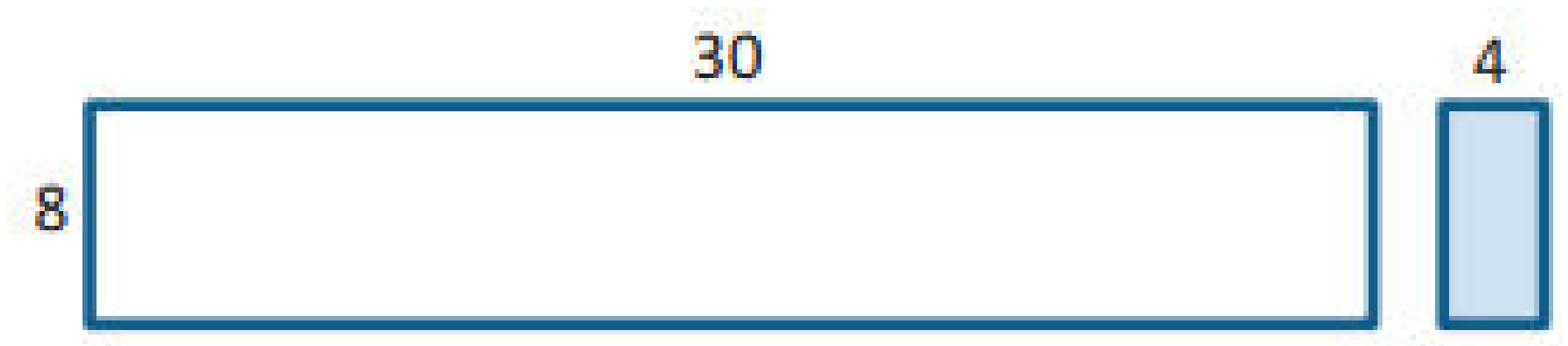
$$A = 8 \times 4$$

$$A = 32$$

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

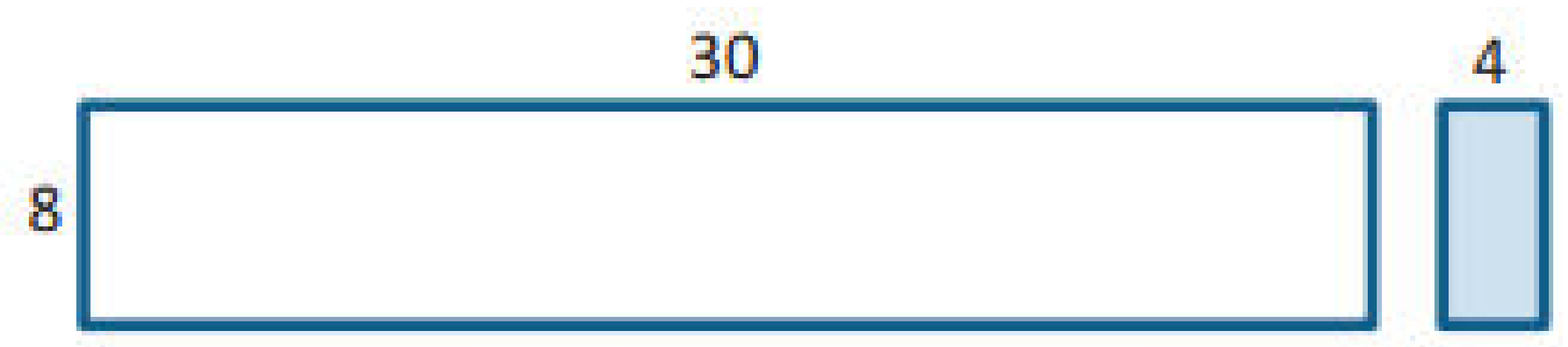
The area of the combined rectangles is 272.

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:

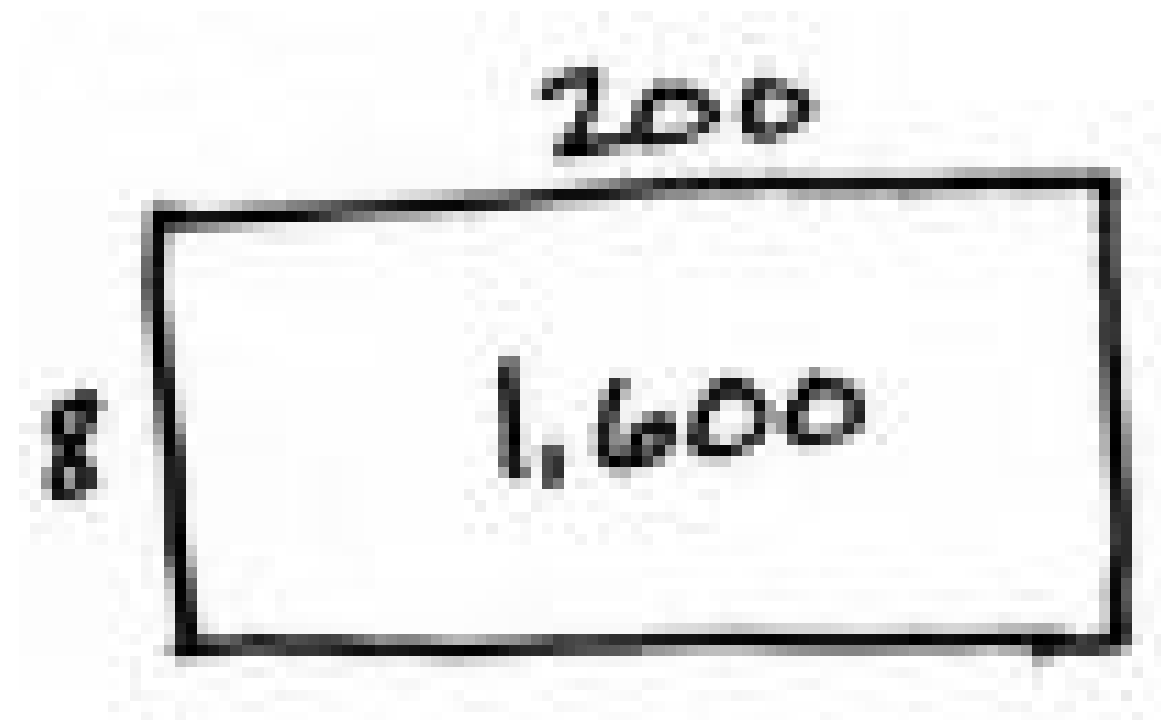
**Draw a rectangle with a
width of 8
and a
length of 200**



Concept Development

Problem 1:

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



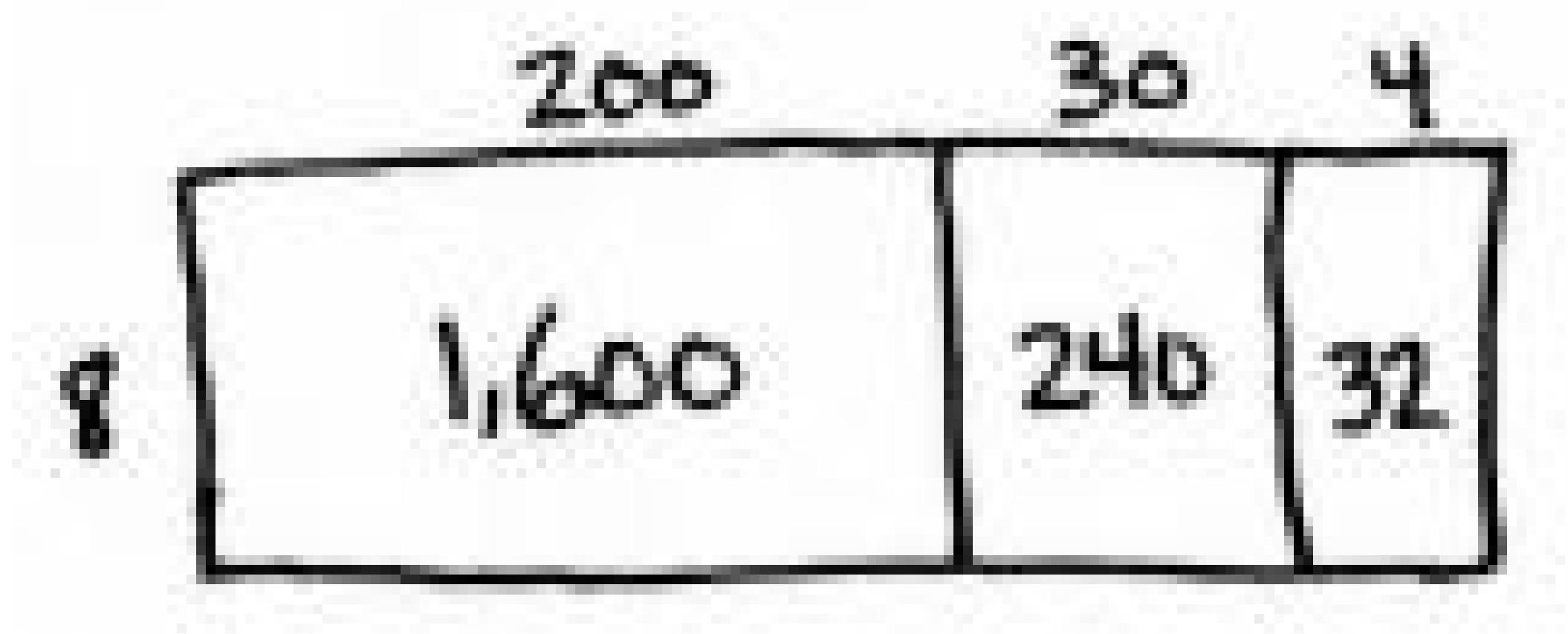


Concept Development

Problem 1:

**Think back to the Application Problem with the rectangles.
Let's combine all three rectangles.**

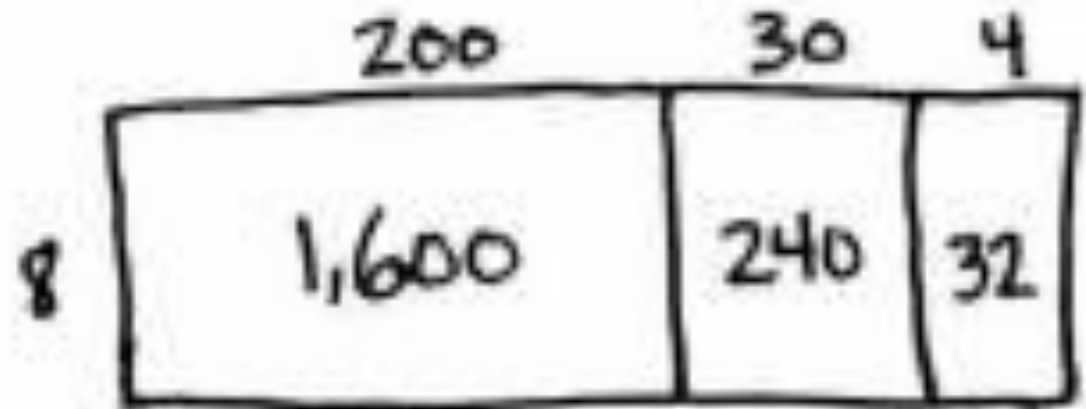
Discuss how to find the area of all three rectangles together.





Concept Development

Problem 1:



$$\begin{array}{r} 234 \\ \times 8 \\ \hline 1,600 \\ 240 \\ + 32 \\ \hline 1,872 \end{array}$$

$8(200 + 30 + 4)$
 $(8 \times 200) + (8 \times 30) + (8 \times 4)$



Concept Development

Problem 2:

316 x 4



Concept Development

Problem 2:

$$316 \times 4$$

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



Concept Development

Problem 2:

$$316 \times 4$$

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



Concept Development

Problem 2:

$$316 \times 4$$

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



Concept Development

Problem 2:

$$316 \times 4$$

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

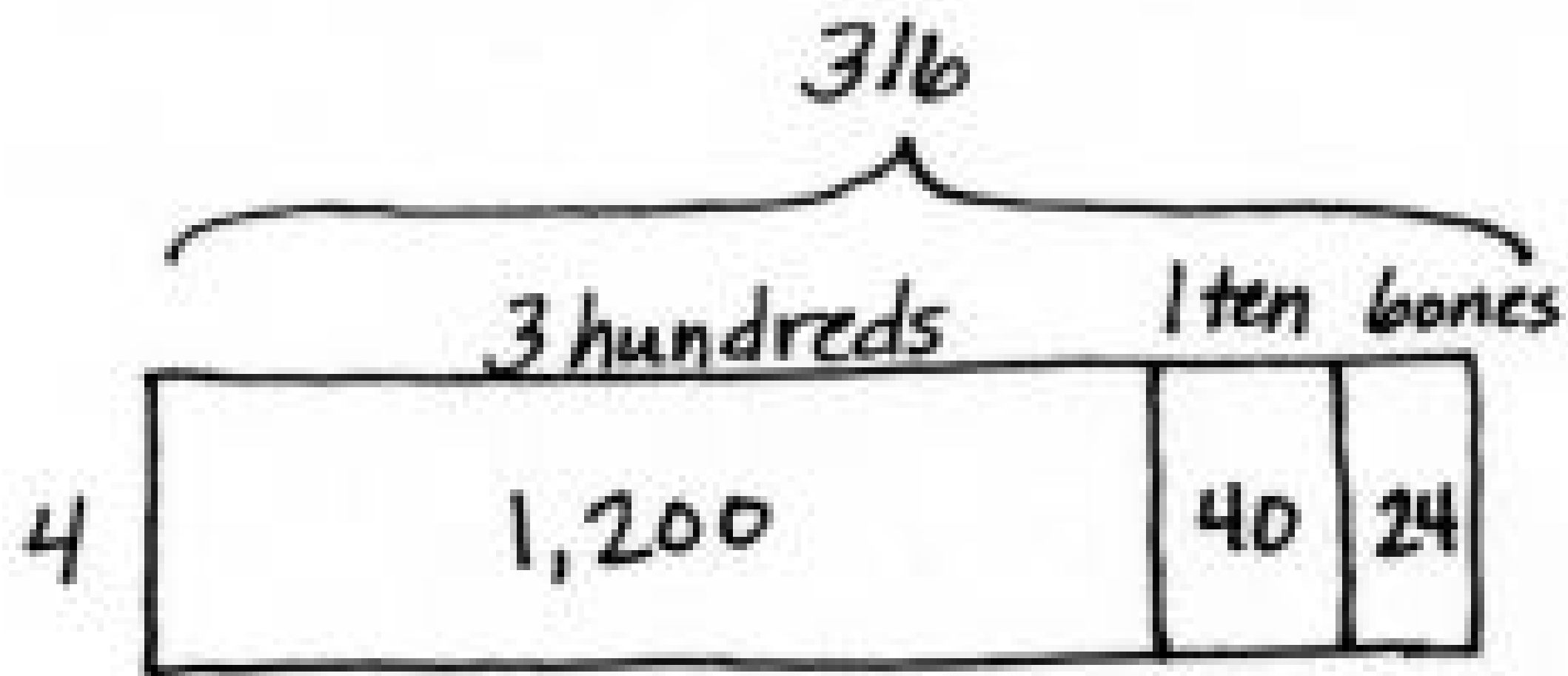
Tell your partner how to solve using the area model.



Concept Development

Problem 2:

$$316 \times 4$$

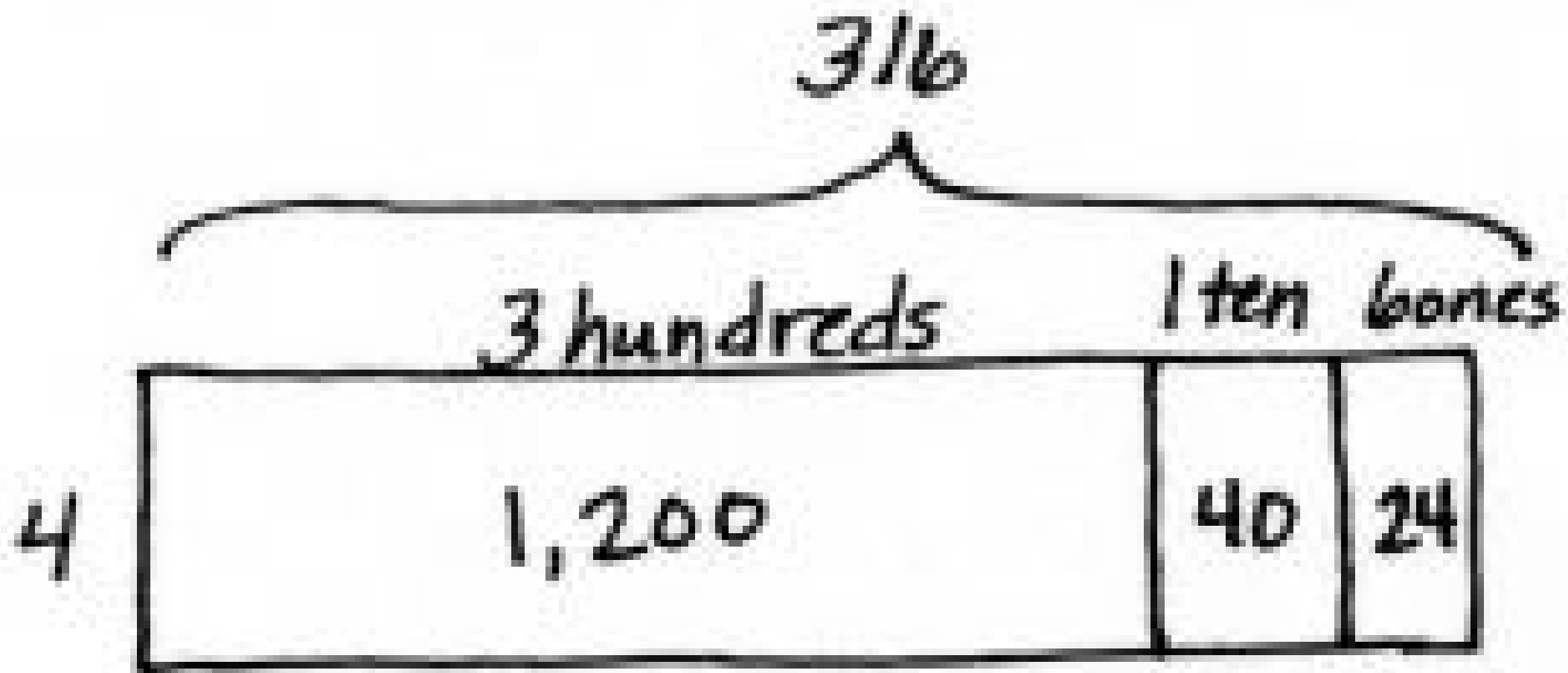




Concept Development

Problem 2:

This is the Distributive Property!

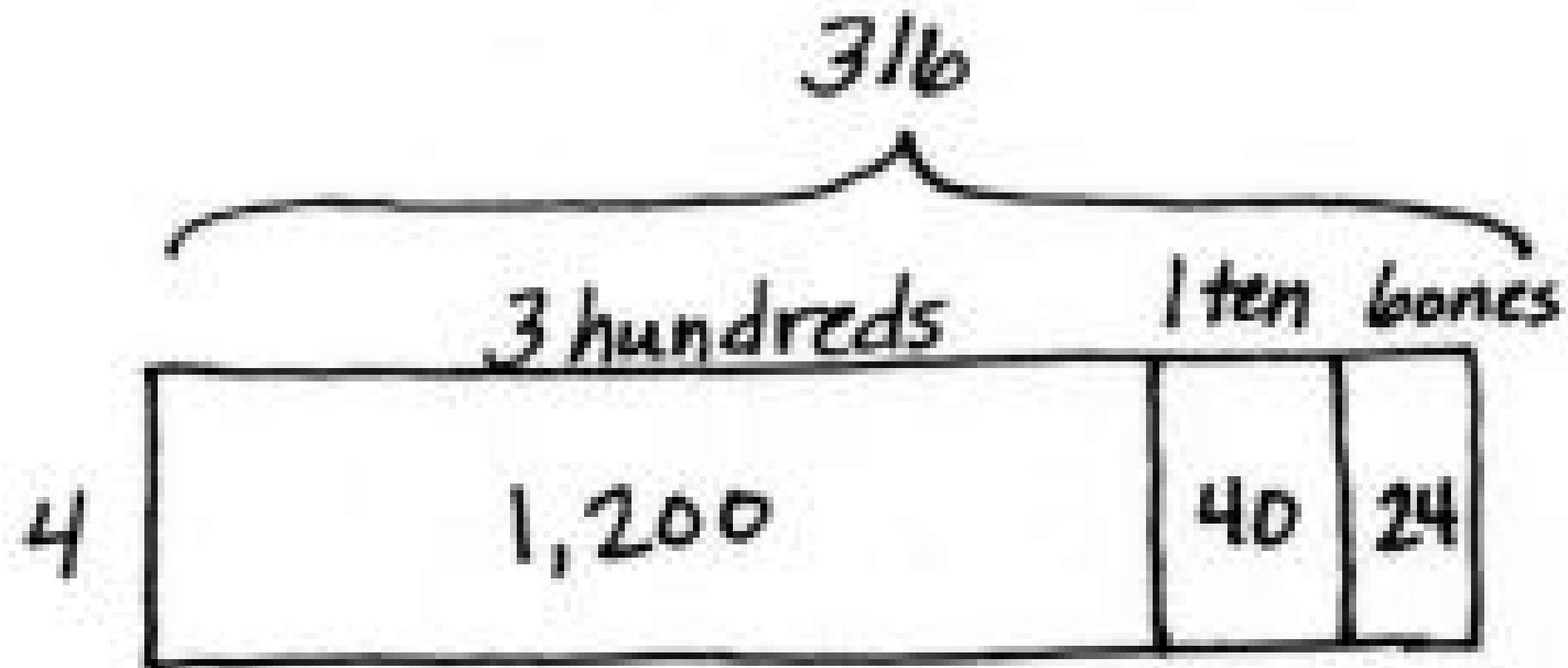




Concept Development

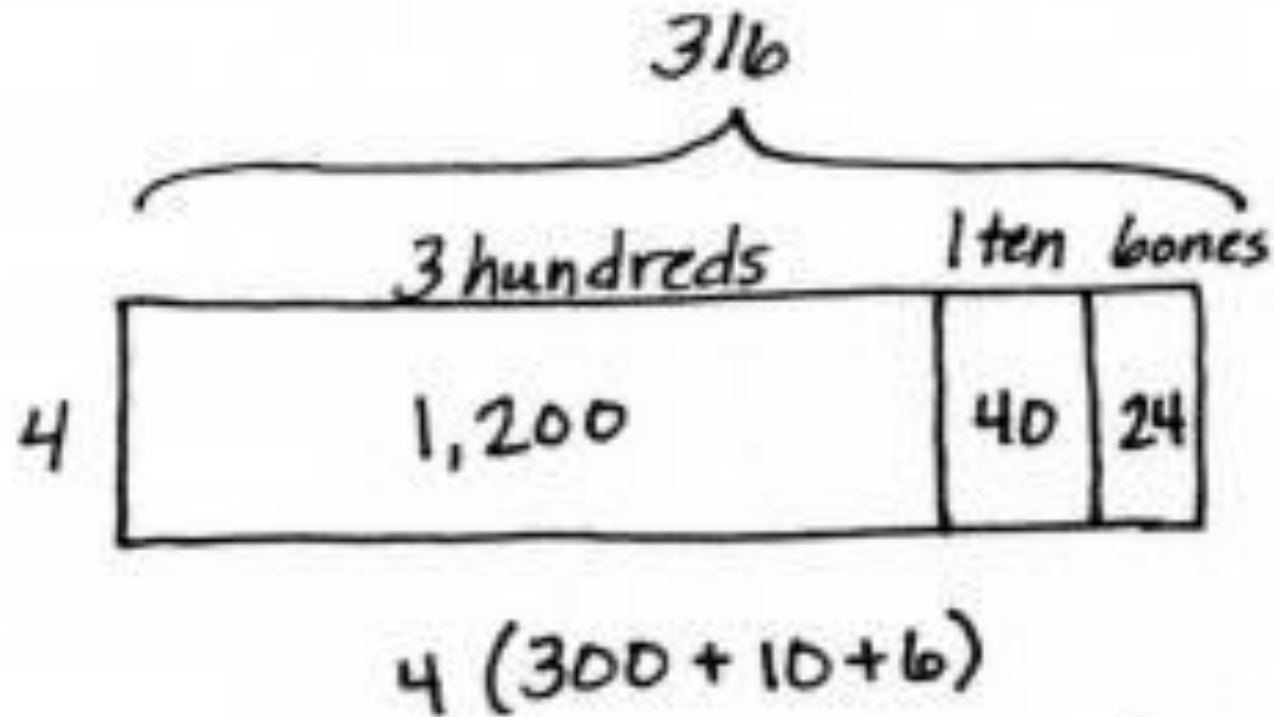
Problem 2:

Break apart the multiplication problem into three smaller ones





Concept Development



$$\begin{array}{r} 316 \\ \times 4 \\ \hline 1,200 \\ 40 \\ + 24 \\ \hline 1,264 \end{array}$$



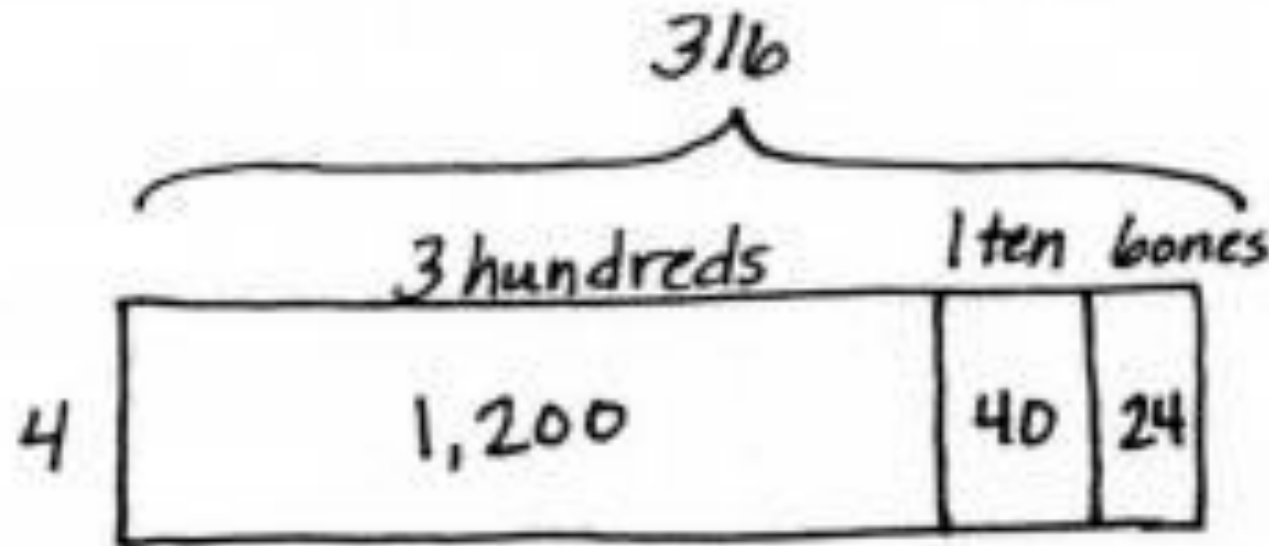
Concept Development

Problem 2:

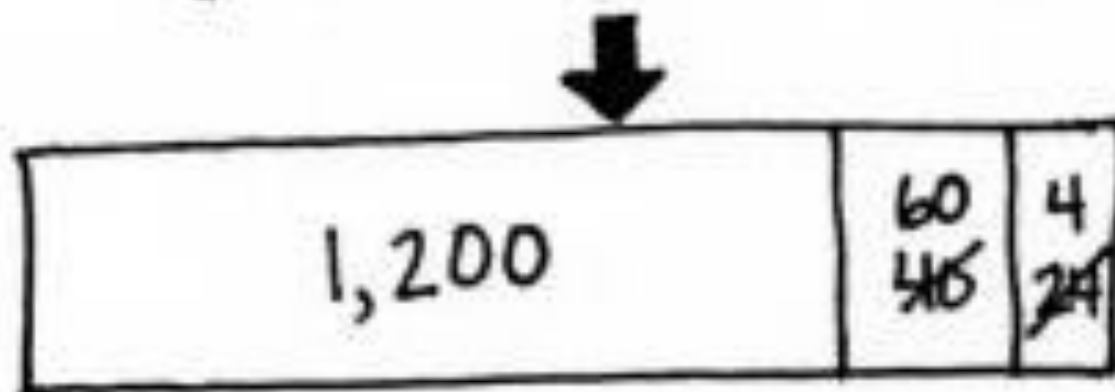
**Solve 314×4 using the
standard algorithm**



Concept Development



$$4(300 + 10 + 6)$$
$$(4 \times 300) + (4 \times 10) + (4 \times 6)$$



$$\begin{array}{r} 316 \\ \times 4 \\ \hline 1,200 \\ 40 \\ + 24 \\ \hline 1,264 \end{array}$$

$$\begin{array}{r} 316 \\ \times 4 \\ \hline 1,264 \end{array}$$



Concept Development

Repeat with $5,463 \times 5$, 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?**

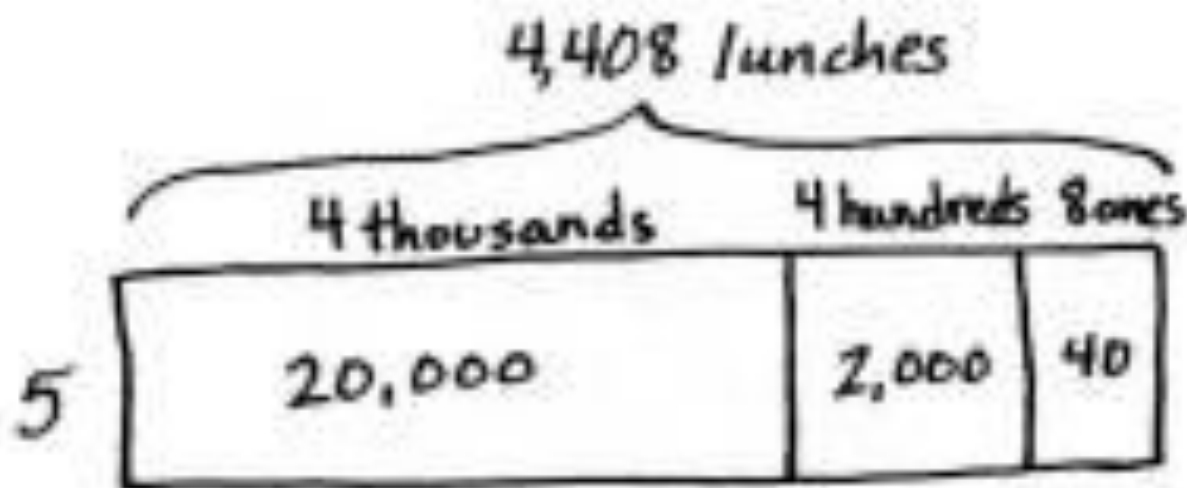
**Discuss with your partner how to solve this
problem. What are some methods you
could use to solve this?**



Concept Development

Problem 3:

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



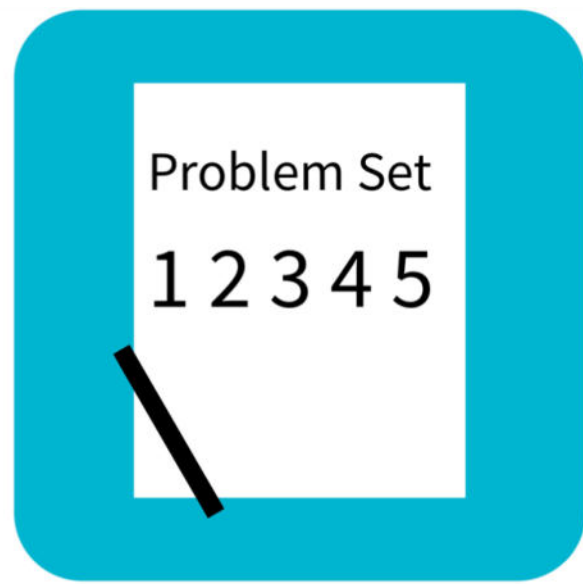
$$5(4,000 + 400 + 8)$$

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

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

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

22,040 lunches were made Monday through Friday.



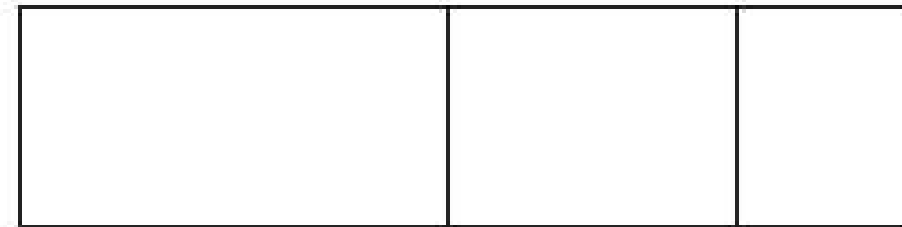
Problem Set

Name _____

Date _____

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

a. 425×4



$$4(400 + 20 + 5)$$

$$(4 \times \underline{\quad}) + (4 \times \underline{\quad}) + (4 \times \underline{\quad})$$

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.

$$2,809 \times 4$$