Eureka Math

4th Grade
Module 3
Lesson 36

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!

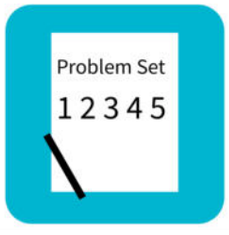
Directions for customizing presentations are available on the next slide.

Icons

Read, Draw, Write

Learning Target

Personal White Board

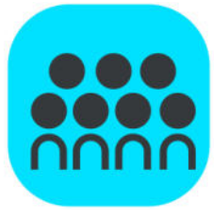


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

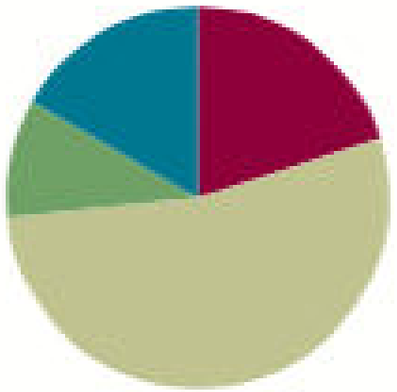
Small Group Time

Lesson 36

Objective: Multiply two-digit by two-digit numbers using four partial products.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(6 minutes)
Concept Development	(32 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Multiply two-digit by two-digit numbers using four partial products.

Draw a unit fraction

Draw a quadrilateral with 4 equal sides and 4 right angles.

What's the name of quadrilateral with 4 sides and 4 right angles.

Partition into 5 equal parts.

Shade in 1 part of 5

What fraction is shaded?

Divide

Divide 3168/9 in three different ways.

Place Value Disks

Area model

Standard algorithm

Application Problem

Mr. Goggins set up 30 rows of chairs in the gymnasium. If each row had 35 chairs, how many chairs did Mr. Goggins set up? Draw an area model to represent and to help solve this problem? Discuss with a partner how the area model can help you solve 30 x 35.

Distributive Property

We will continue to use the application problem, however, Mr. Goggins set up an additional 4 rows of chairs with 35 chairs in each row. Let's change our area model to represent the additional rows.

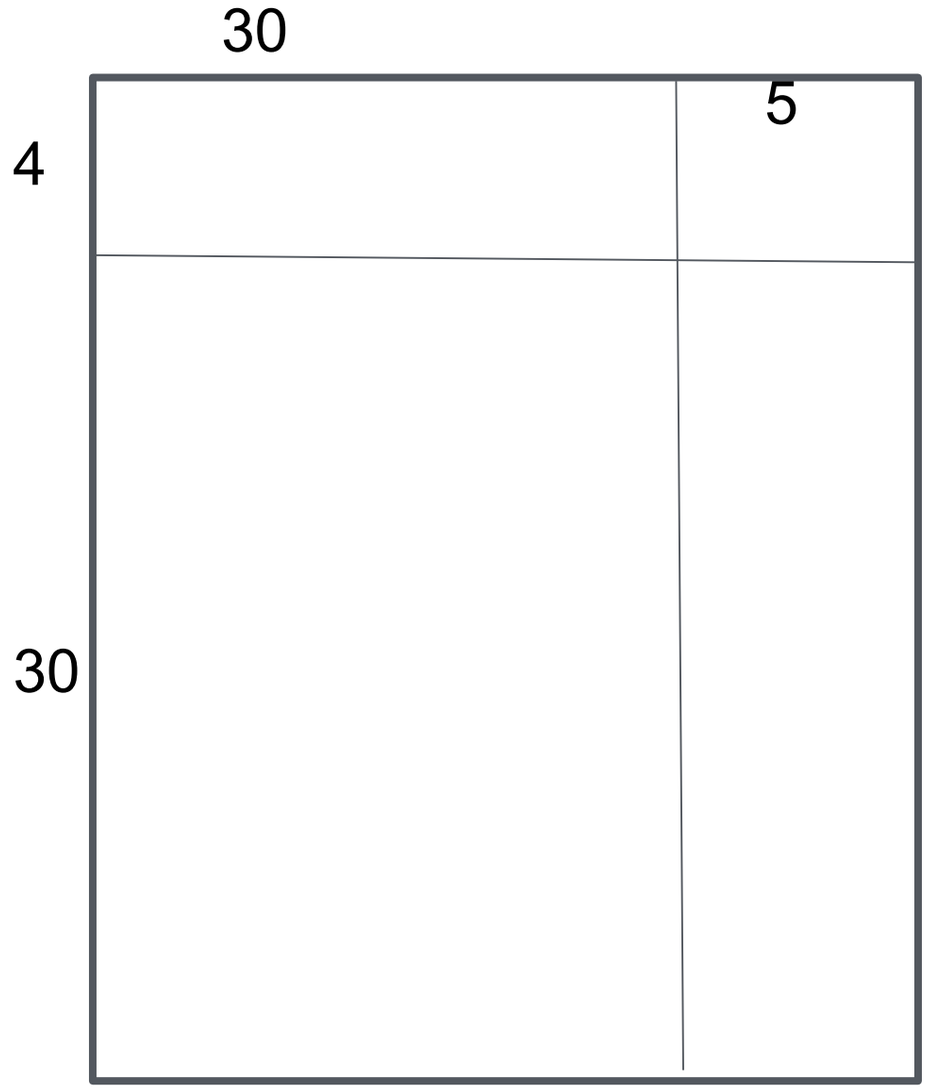
We can draw an area model to match this new set up.

35

X34

We can multiply the 4 by the place values above. When we are done with the ones PV, we move on to the tens.

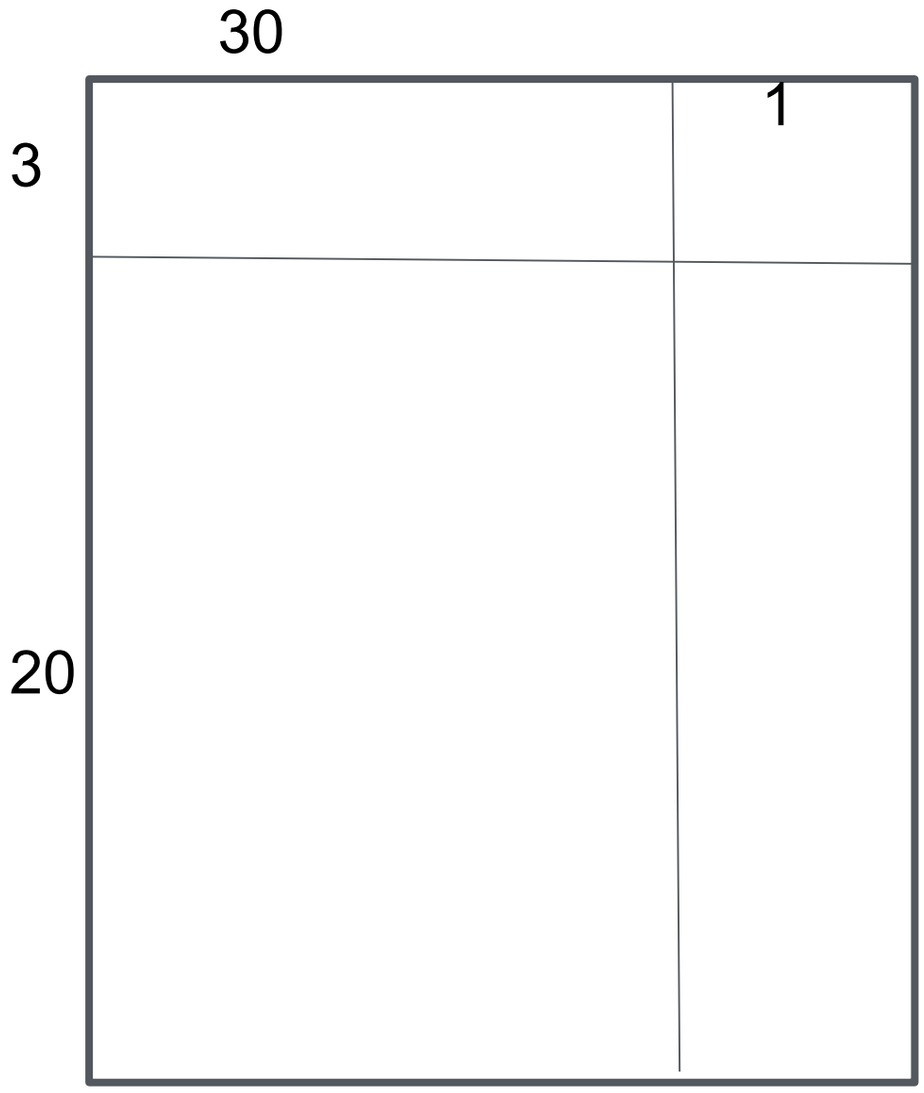
(4x___) + (4x___) + (30x___) + (30x____)



Connecting model to partial products

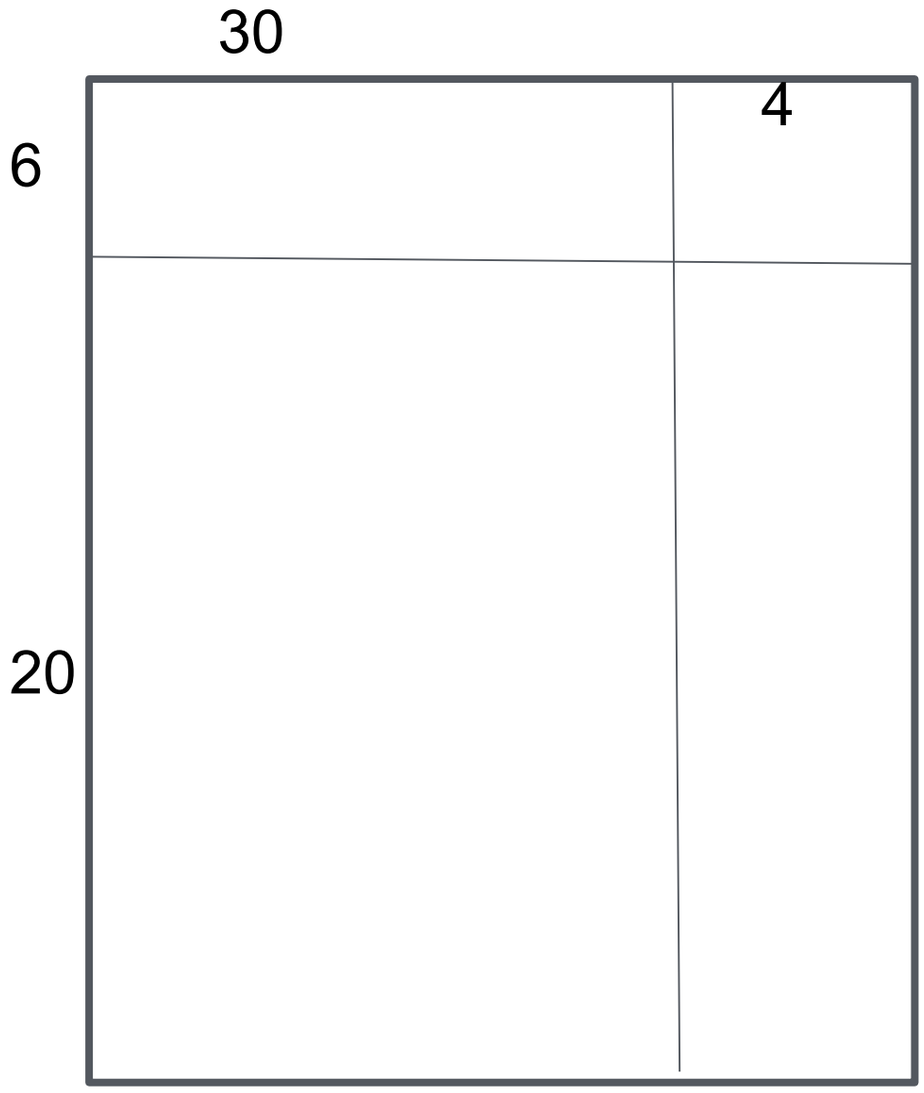
35

X34



Solve using partial products, check with area model.

$$\begin{array}{r} 34 \\ \times 26 \\ \hline \end{array}$$



Find the product of 38 and 43 using partial products.

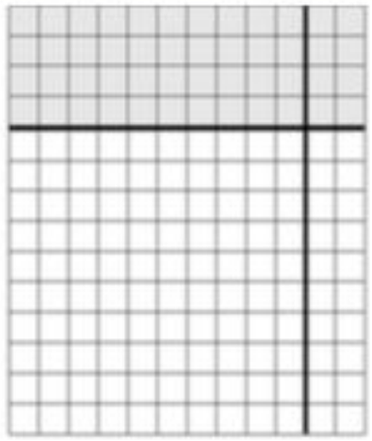
Problem Set

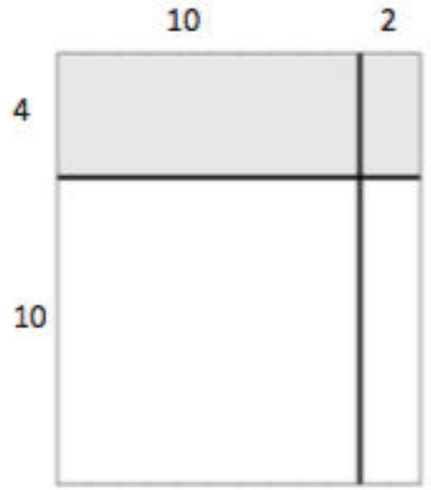
1 2 3 4 5

Problem Set

Name _____ Date _____

1. a. In each of the two models pictured below, write the expressions that determine the area of each of the four smaller rectangles.





b. Using the distributive property, rewrite the area of the large rectangle as the sum of the areas of the four smaller rectangles. Express first in number form, and then read in unit form.

$14 \times 12 = (4 \times \_\_\_\_\_) + (4 \times \_\_\_\_\_) + (10 \times \_\_\_\_\_) + (10 \times \_\_\_\_\_)$

Debrief

- How do Problems 1 and 2 help to prepare you to solve Problems 3, 4, 5, and 6?
- How did our previous work with area models and partial products help us to be ready to solve two-digit by two-digit multiplication problems using partial products?
- How is it helpful to think about the areas of each rectangle in terms of *units*?
- How could you explain to someone that *ones* × *tens* equals *tens* but *tens* × *tens* equals *hundreds*?
- What significant math vocabulary did we use today to communicate precisely?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

Record the partial products to solve.

Draw an area model first to support your work, or draw the area model last to check your work.

1. 26×43