Eureka Math

4th Grade
Module 3
Lesson 37

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.

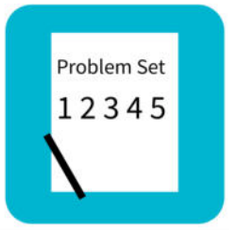
This work by Bethel School District (www.bethelsd.org) is licensed under the Creative Commons Attribution Non-Commercial Share-Alike 4.0 International License. To view a copy of this license, visit http://creativecommons.org/licenses/by/4.0/. Bethel School District Based this work on Eureka Math by Common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

Icons

Read, Draw, Write

Learning Target

Personal White Board

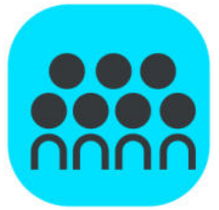


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

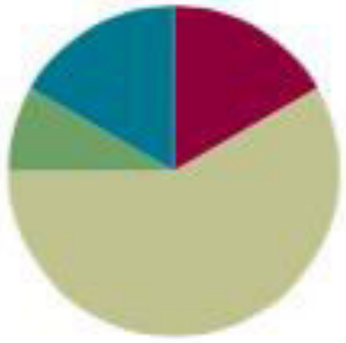
Small Group Time

Lesson 37

Objective: Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.

Suggested Lesson Structure

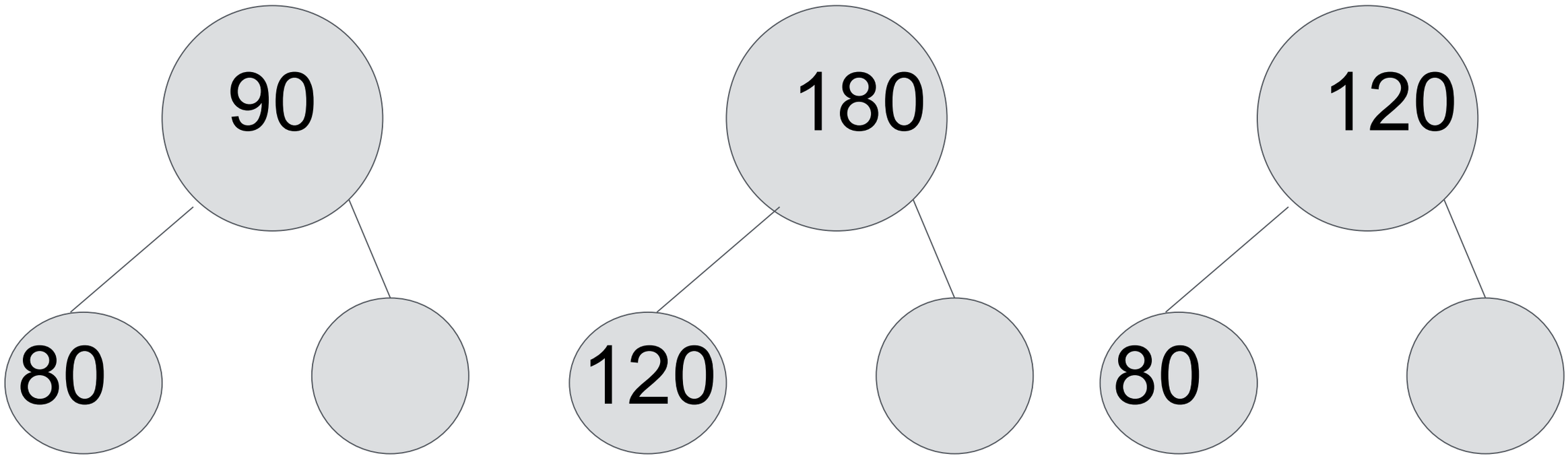
Fluency Practice	(10 minutes)
Application Problem	(5 minutes)
Concept Development	(35 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Transition from four partial products to the standard algorithm for two-digit by two-digit multiplication.

Draw a unit fraction

Decompose 90 and 180



Divide

Divide 3168/9 in three different ways.

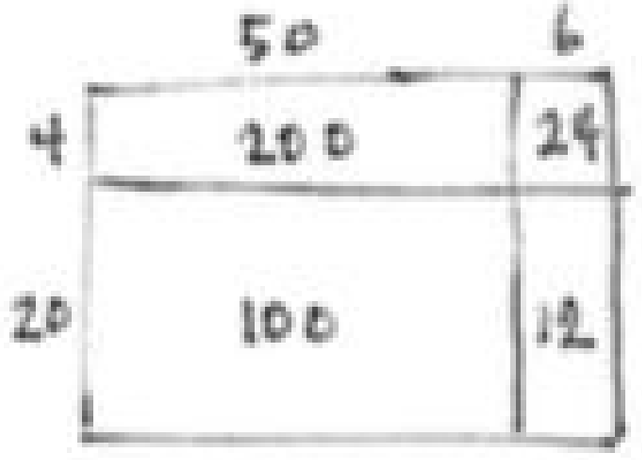
Place Value Disks

Area model

Standard algorithm

Application Problem

Sylvie's teacher challenged the class to draw an area model to represent the expression 24 x 56 and then solve using partial products. Sylvie solved the expression as seen to the right. Is her answer correct. Why or why not?



56
x 24

24
200
12
+100

336

Connecting to standard algorithm

Draw an area model to solve for the product of 26 x 35.

35

X 26

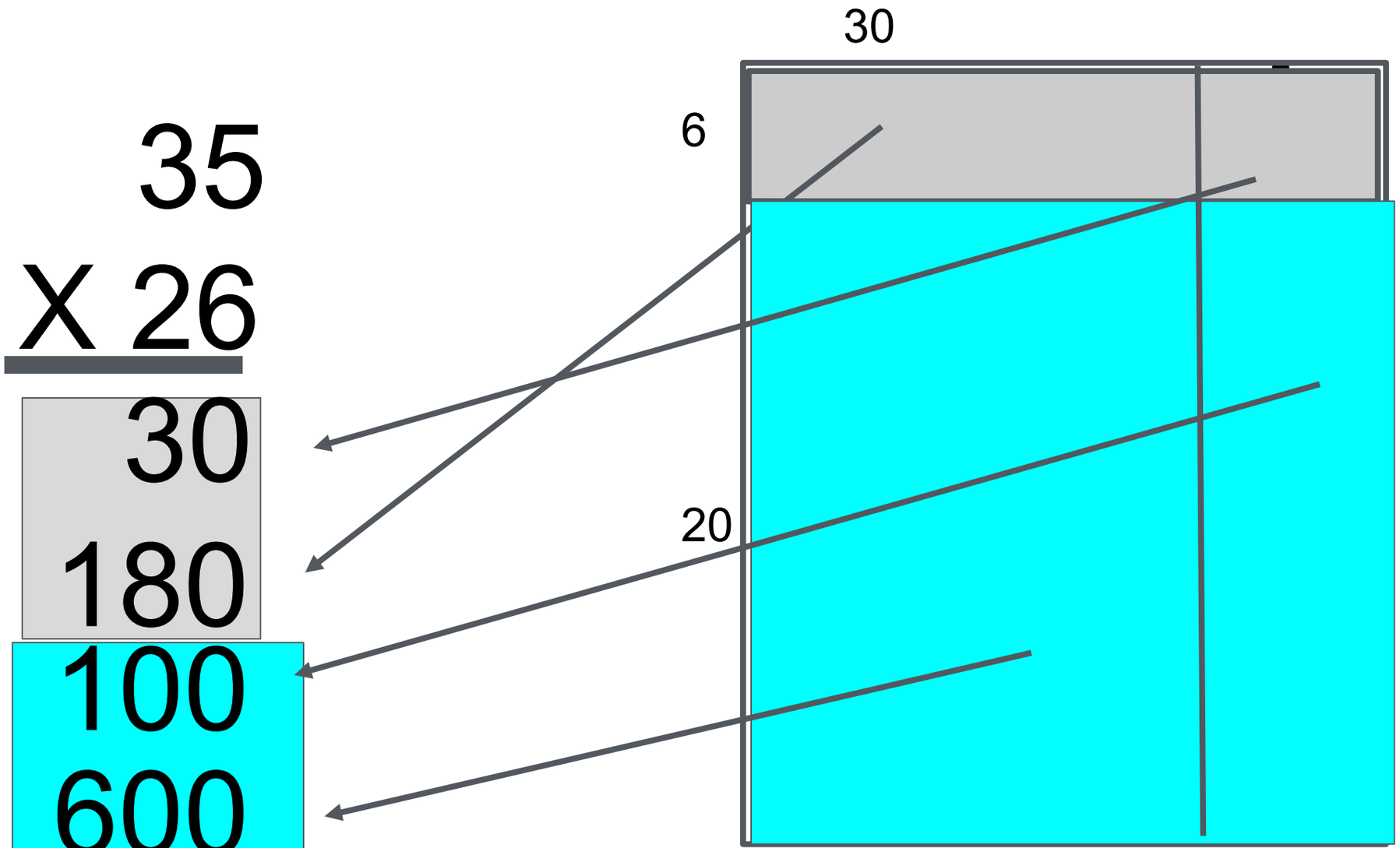
30

180

100

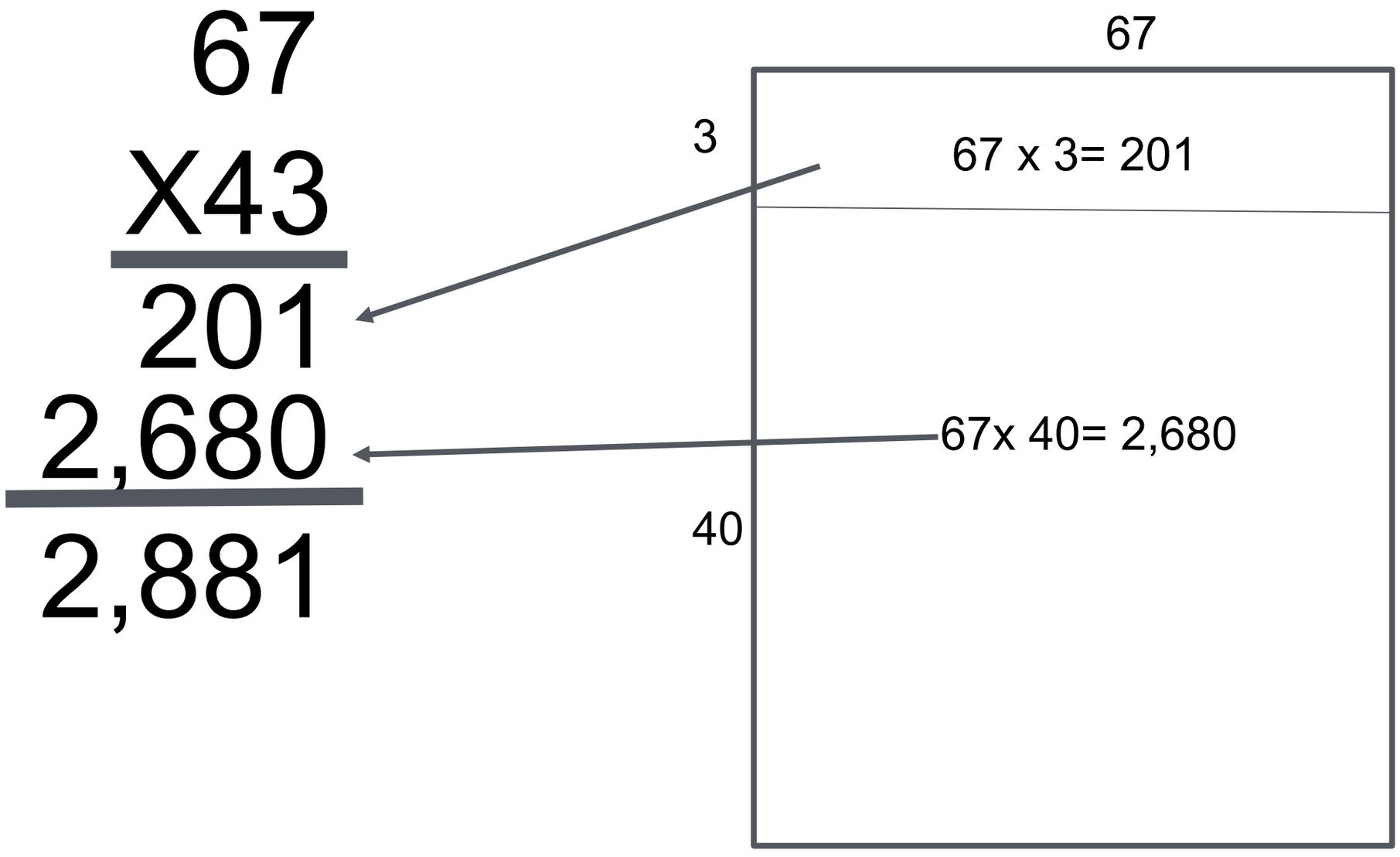
600

910



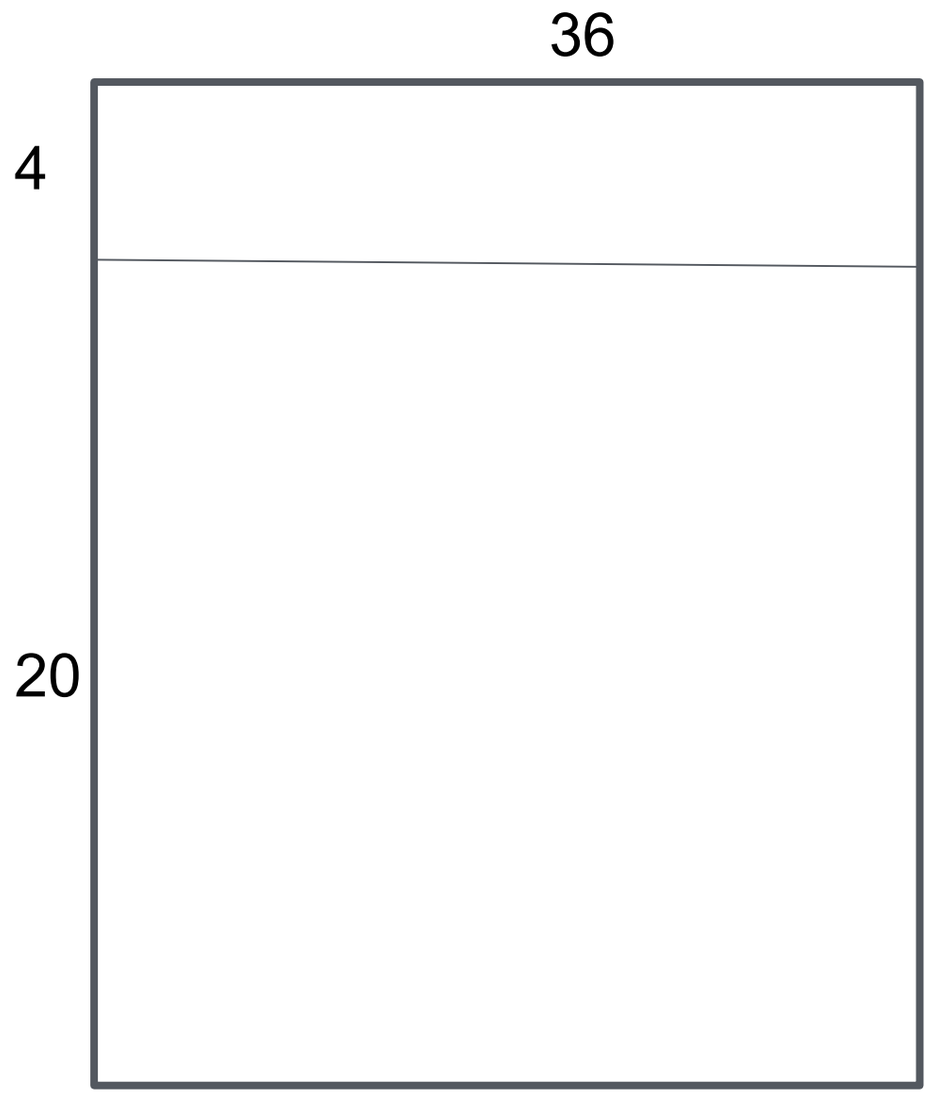
Connecting area model to standard.

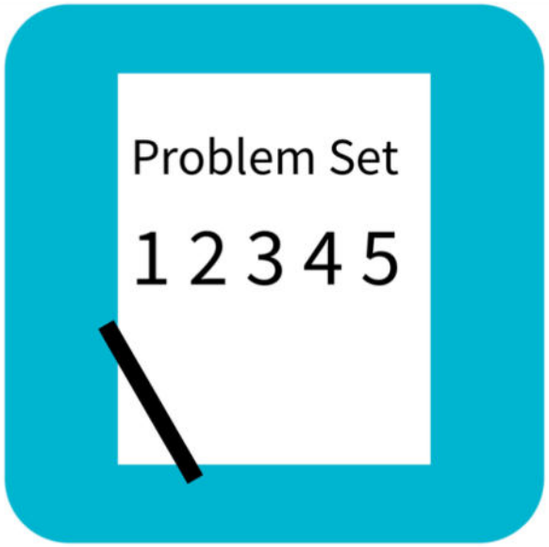
$$\begin{array}{r} 67 \\ \times 43 \\ \hline 201 \\ 2{,}680 \\ \hline 2{,}881 \end{array}$$



Solve using partial products, check with area model.

$$\begin{array}{r} 36 \\ \times 24 \\ \hline \end{array}$$

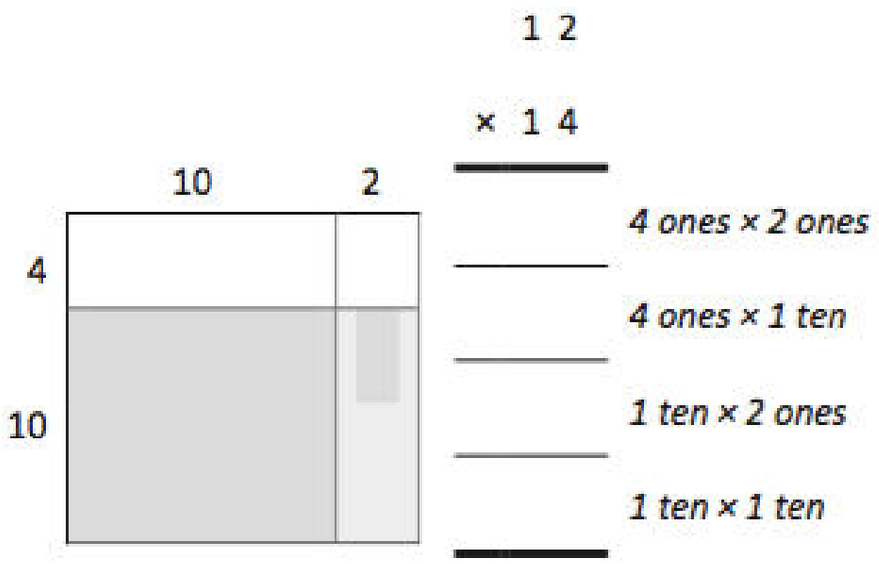


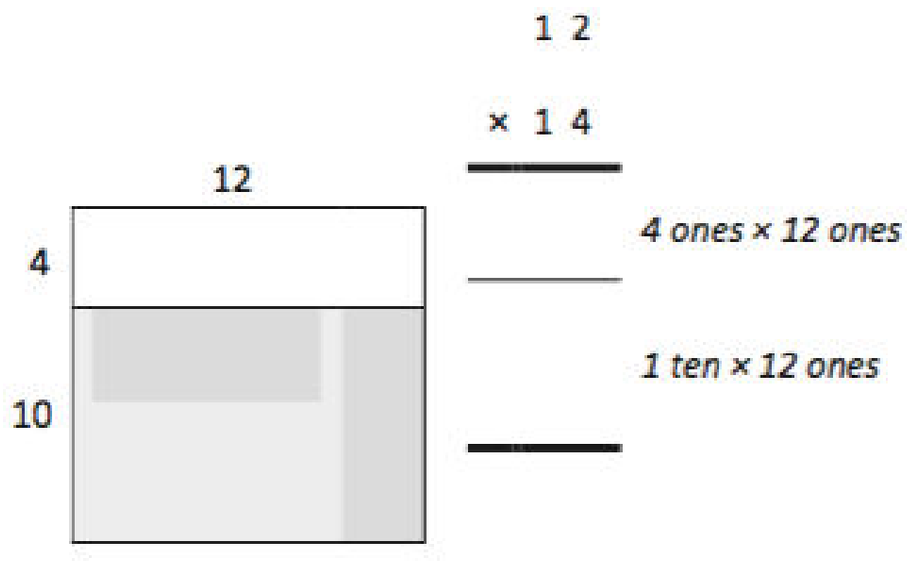


Problem Set

Name _____ Date _____

1. Solve 14 × 12 using 4 partial products and 2 partial products. Remember to think in terms of units as you solve. Write an expression to find the area of each smaller rectangle in the area model.





Debrief

- Did you record the 15 or 57 as the width of the rectangle in Problem 3? Does it matter the order? Which number as the width is easiest for you to solve the rest of the problem? Explain.
- Imagine the area models for Problems 4(c) and (d). Notice how the rectangle in Problem 4(d) is half as wide and double the length of the rectangle in Problem 4(c). What might the areas look like? Why does that result in the same product?
- How does the shading on the area models help you understand the movement from four partial products to two partial products?
- Why would we want to represent the area model using two partial products instead of four?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Exit Ticket (3 minutes)

After the Student Debrief, instruct students to complete the Exit Ticket. A review of their work will help with assessing students' understanding of the concepts that were presented in today's lesson and planning more effectively for future lessons. The questions may be read aloud to the students.