Eureka Math

4th Grade
Module 3
Lesson 9

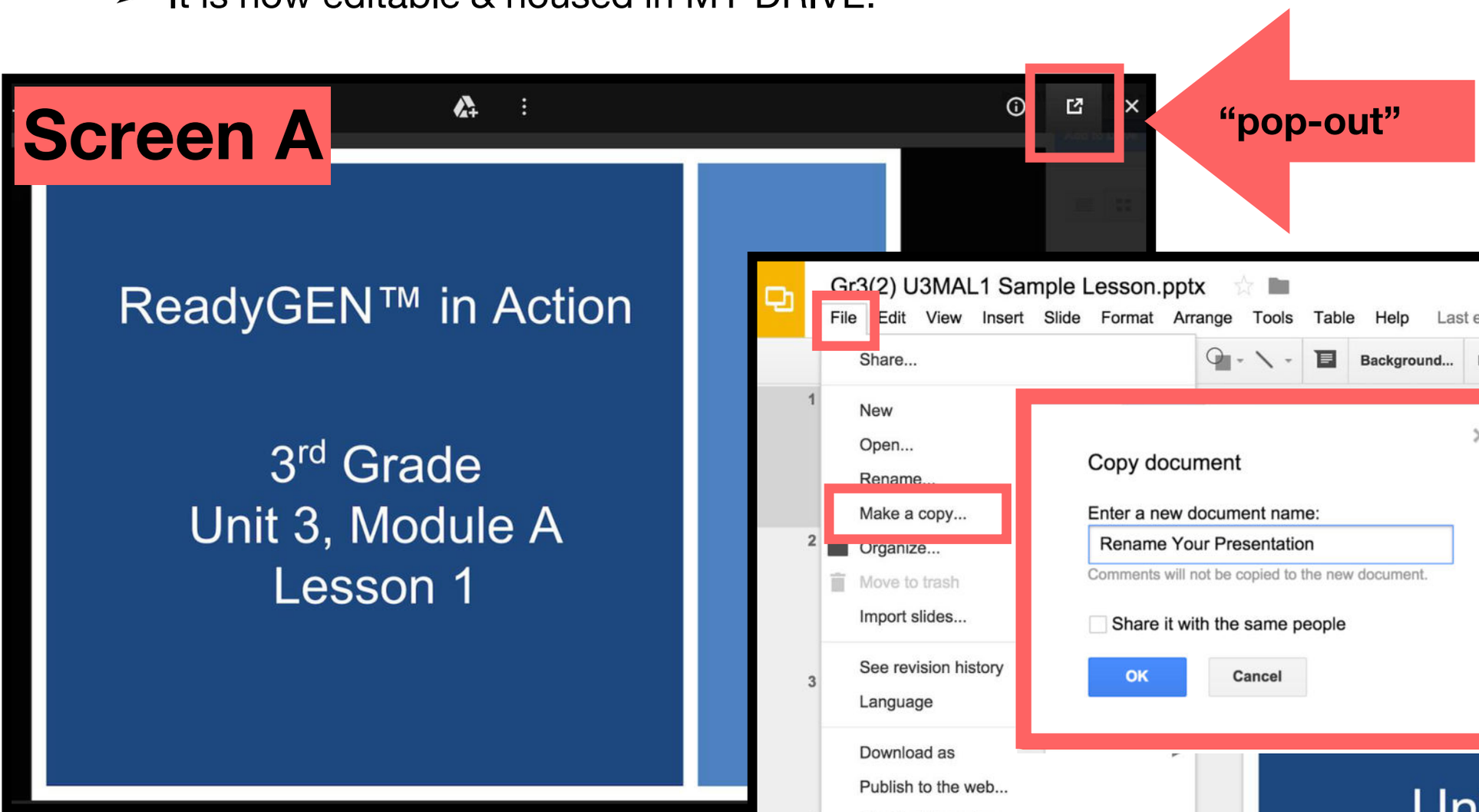
At the request of elementary teachers, a team of Bethel & Sumner educators met as a committee to create Eureka slideshow presentations. These presentations are not meant as a script, nor are they required to be used. Please customize as needed. Thank you to the many educators who contributed to this project!

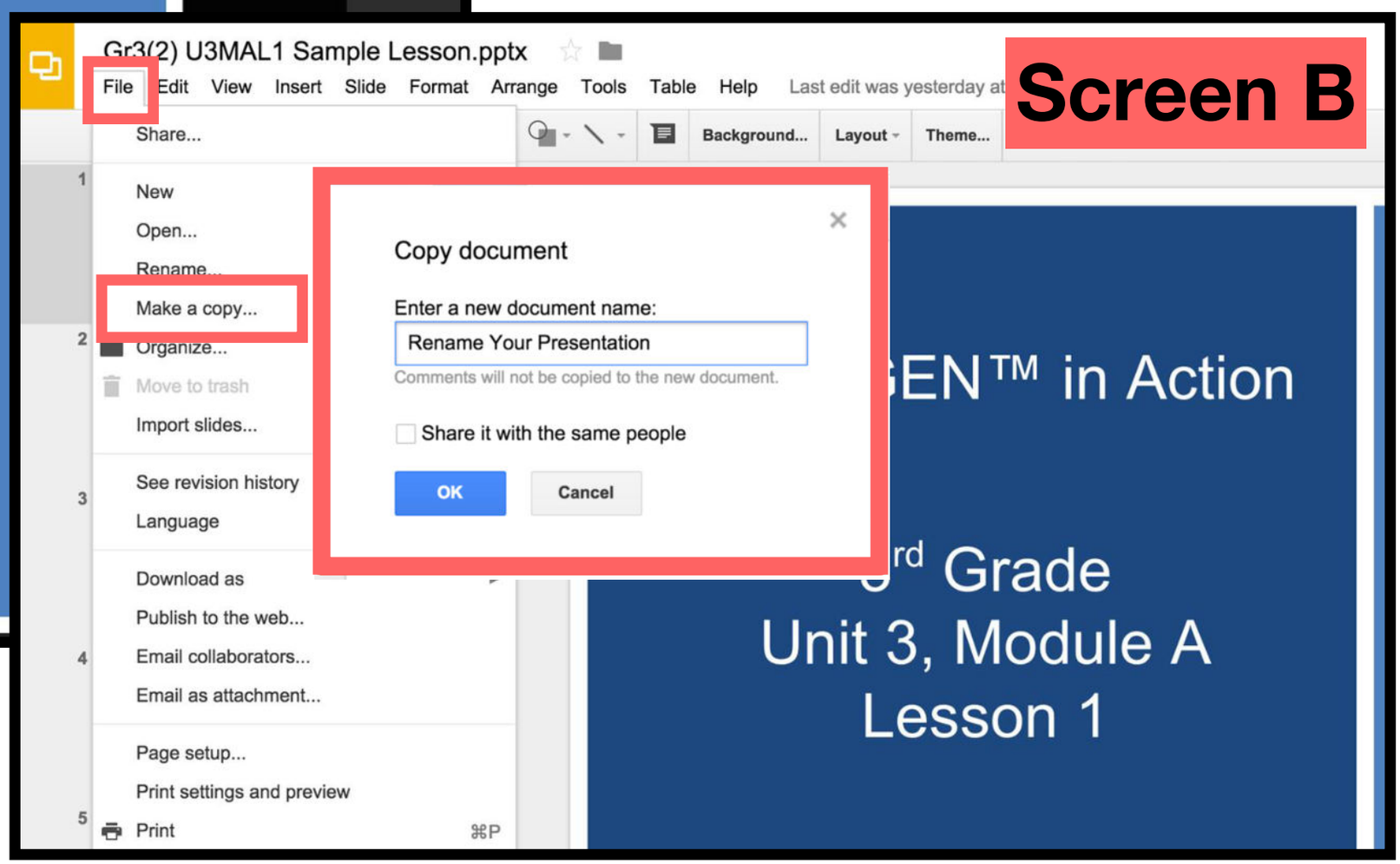
Directions for customizing presentations are available on the next slide.

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.



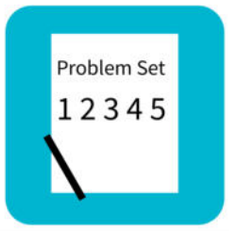


Icons

Read, Draw, Write

Learning Target

Personal White Board

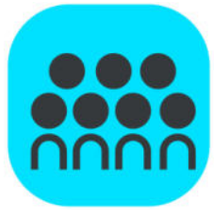


Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

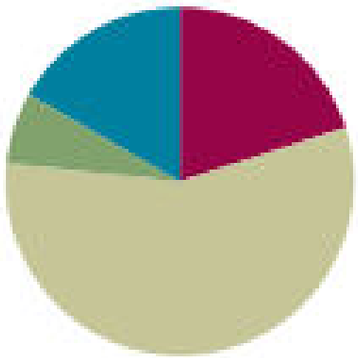
Small Group Time

Lesson 9

Objective: Multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(4 minutes)
Concept Development	(34 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**

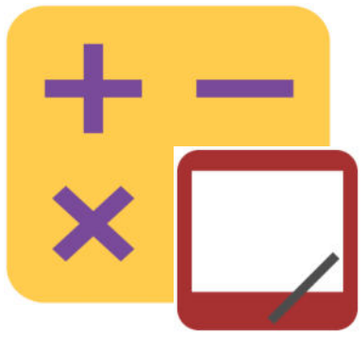


Fluency Practice (12 minutes)

- Expanded Form **2.NBT.3** (3 minutes)
- Multiply Mentally **4.NBT.4** (3 minutes)
- Multiply Using Disks **4.NBT.5** (6 minutes)

Expanded Form (3 minutes)

I can multiply three- and four-digit numbers by one-digit numbers applying the standard algorithm.

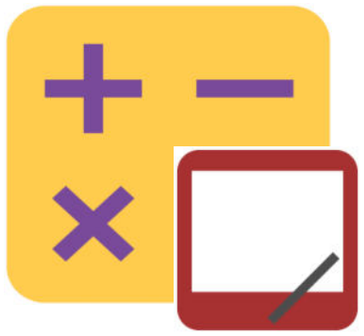


Fluency Practice

Expanded Form

300 + 40 + 3

Say the addition sentence with the answer in standard form.

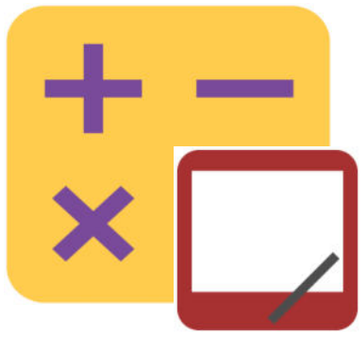


Fluency Practice

Expanded Form

4,000 + 600 + 70 + 9

Say the addition sentence with the answer in standard form.



Fluency Practice

Expanded Form

500 + 8 + 20

Say the addition sentence with the answer in standard form.

Fluency Practice

Expanded Form

275

On your personal white board, write 527 in expanded form.

Fluency Practice

Expanded Form

4,638

On your personal white board, write 8,463 in expanded form.

Fluency Practice

Expanded Form

9,705

On your personal white board, write 9,075 in expanded form.

Fluency Practice

Multiply Mentally

Say the multiplication sentence.

2 x 3 = ____

Fluency Practice

Multiply Mentally

Say the multiplication sentence.

2 x 3 = 6

10 x 3 = ____

Fluency Practice

Multiply Mentally

Say the multiplication sentence.

2 x 3 = 6

10 x 3 = 30

300 x 3 = ____

Fluency Practice

Multiply Mentally

Say the multiplication sentence.

2 x 3 = 6

10 x 3 = 30

300 x 3 = 900

Fluency Practice

Multiply Mentally

Say the multiplication sentence.

2 x 3 = 6

10 x 3 = 30

300 x 3 = 900

312 x 3 = 936

Fluency Practice

Multiply Mentally

Repeat the process for

432 x 2

212 x 4

124 x 3

Fluency Practice

Multiply Using Disks

1 x 312

On your personal white board, draw place value disks to show this multiplication sentence.

(1 x ____ hundreds) + (1 x ____ tens) + (1 x ____ ones)

Fill in the blanks and write the problem vertically.

Fluency Practice

Multiply Using Disks

1 x 312

1 x 300 = 300

1 x 10 = 10

1 x 2 = 2

1 x 312 = 312

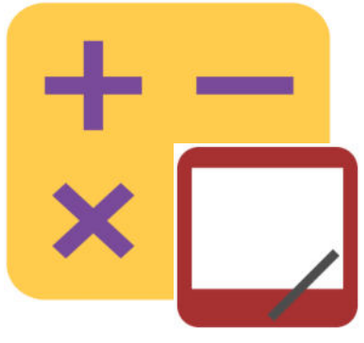
Fluency Practice

Multiply Using Disks

Use the same process for the following problems:

$2 \times 312 =$

$3 \times 312 =$



Fluency Practice

Multiply Using Disks

Use the same process for the following problems:

2 x 2,154

4 x 212

3 x 1,504

Application Problem

Calculate the total amount of milk in three cartons if each carton contain 236 mL of milk.

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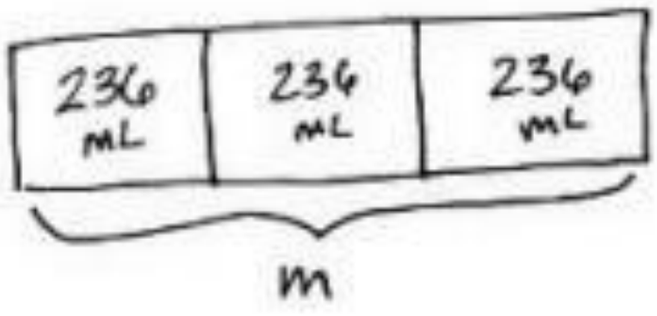
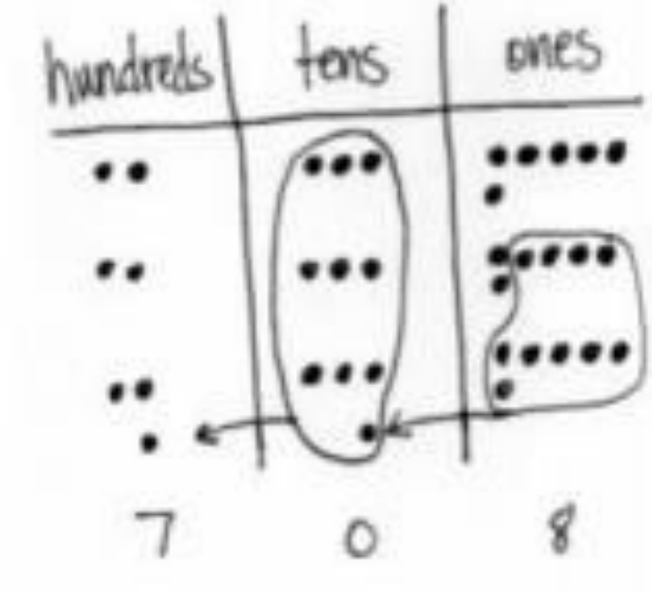




There are 708mL in 3 cartons of milk.

Concept Development

Materials

(T) Ten thousands place value chart

(S) Personal white boards, ten thousands place value chart (template)

Concept Development

Problem 1:

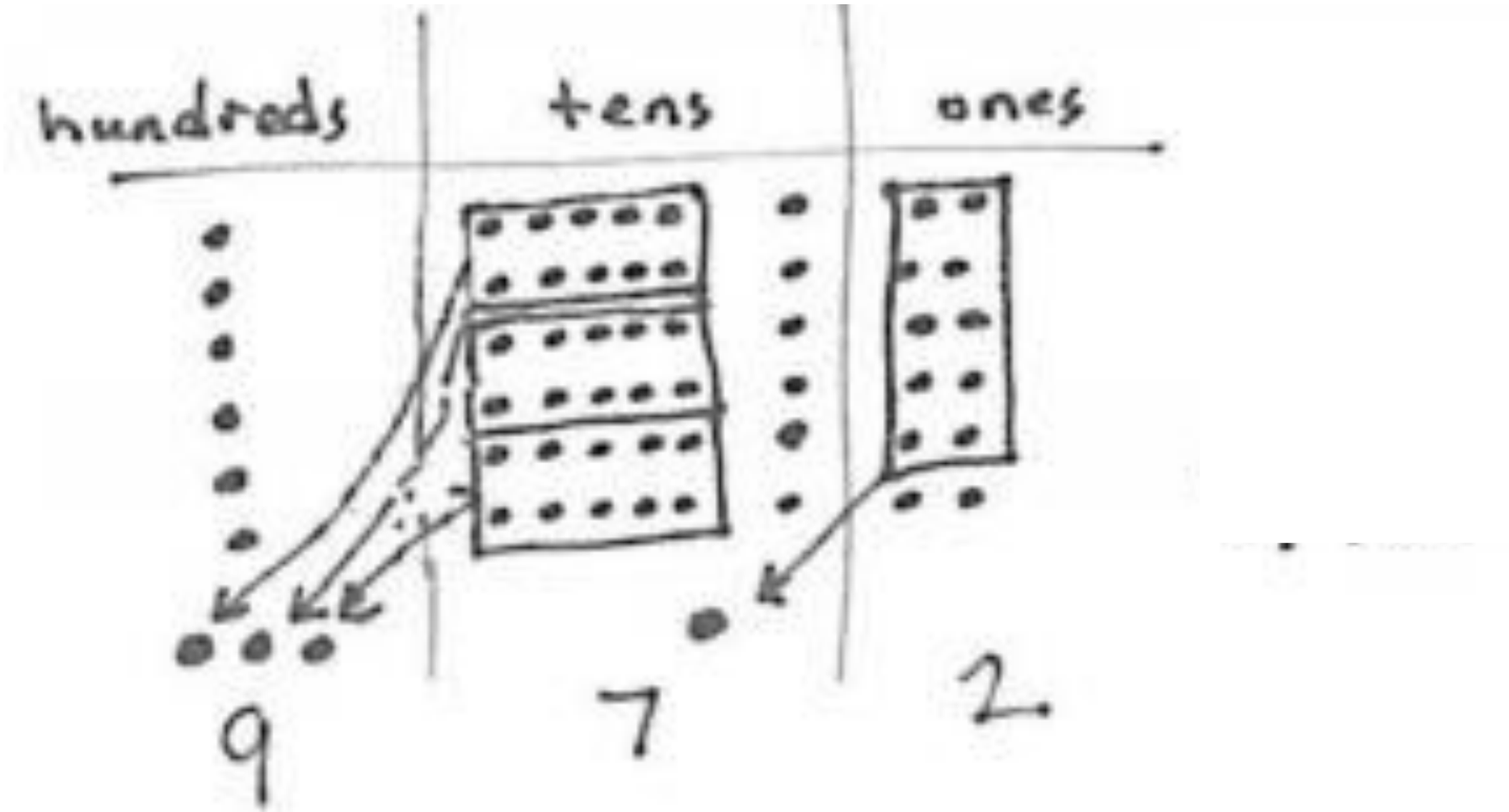
Represent and solve 6 x 162 in the place value chart.

Concept Development

Represent 6 x 162 on your place value chart using the repeated addition way.

Was it necessary to regroup?

Concept Development

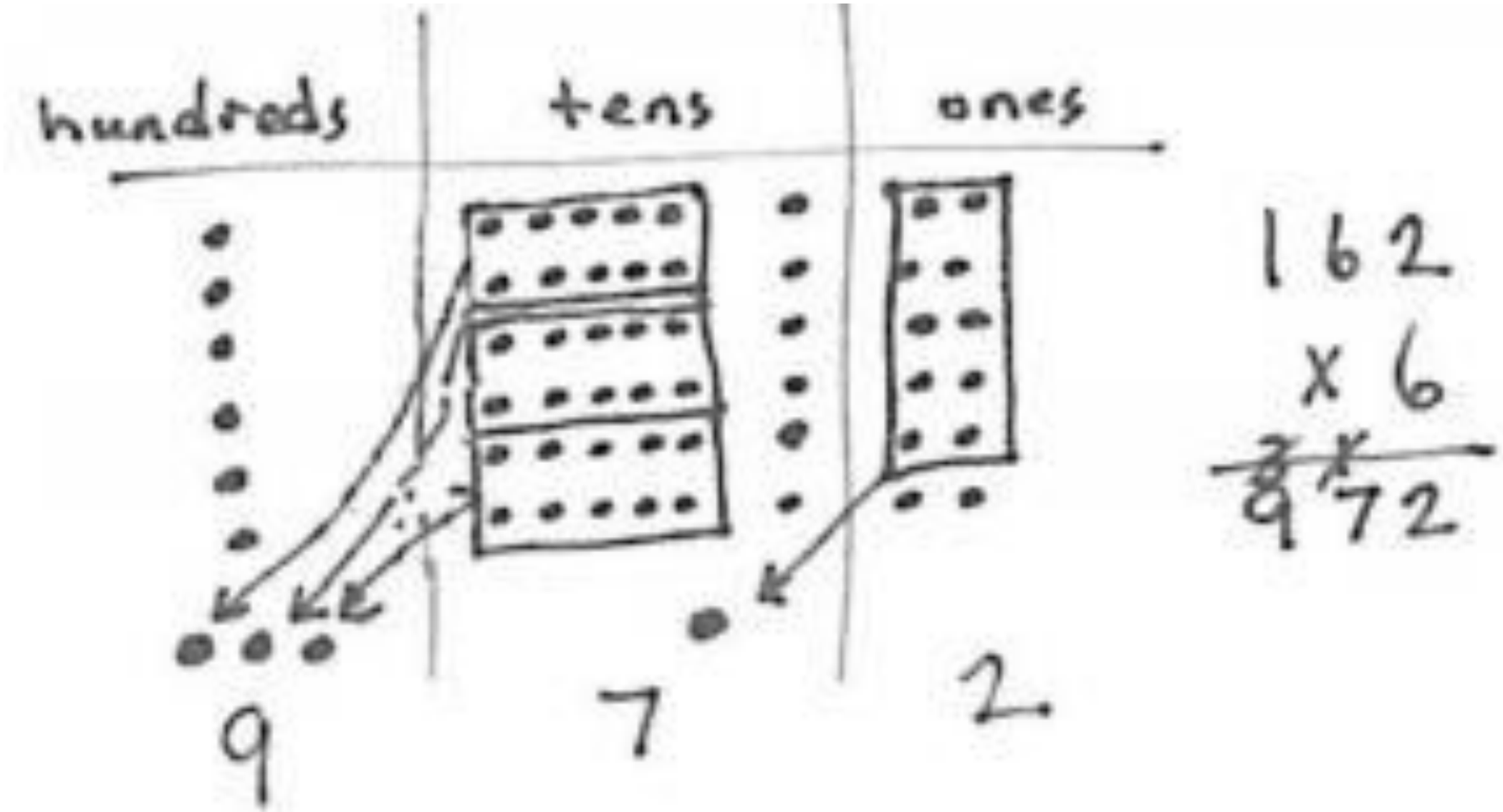


Concept Development

Write the expression 6 x 162 again vertically on your personal white boards.

Let's find a faster way to express your answer. Use the place value chart to help you.

Concept Development



Concept Development

Problem 2:

Solve 5 x 237 using the partial products algorithm.

Concept Development

237

x 5

Write the problem 5 × 237 vertically.
This time, rather than recording
5 groups of 237 to begin,
let's record the
partial products as we multiply each unit.

Concept Development

237

x 5

35 **Five times seven is . . .**

Concept Development

237

x 5

35 **Five times seven is . . .**

150 **Five times three tens is . . .**

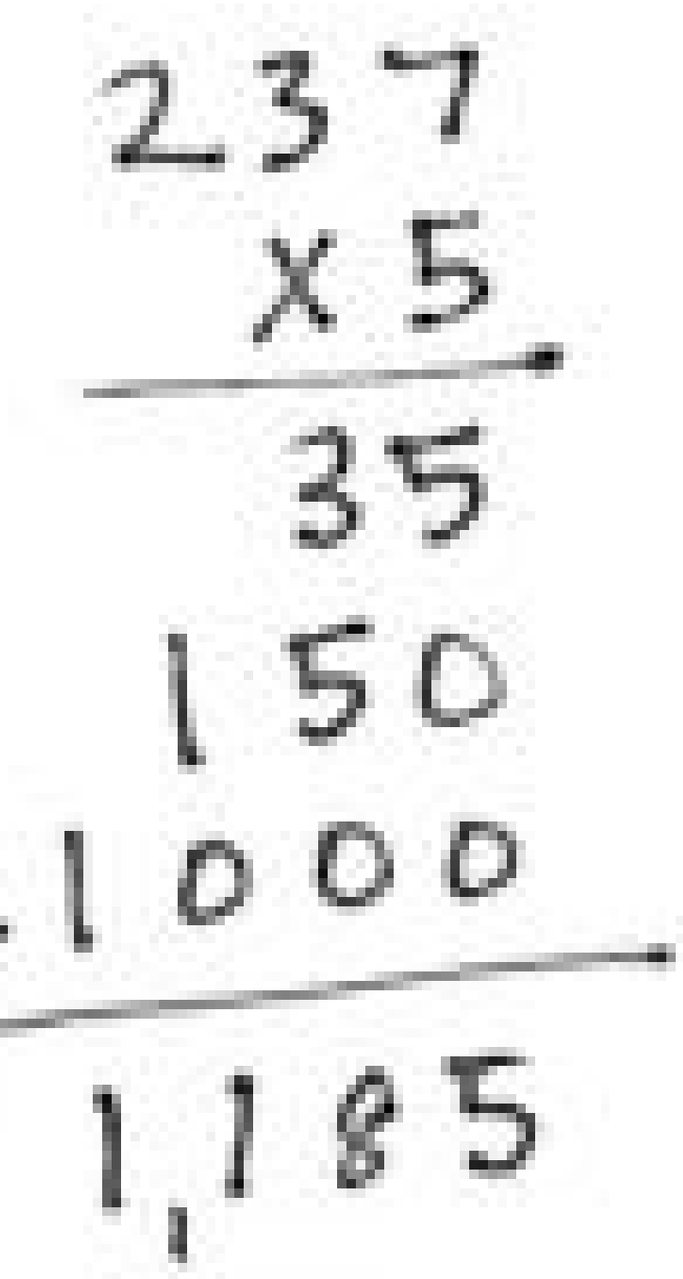
Concept Development

237	
x 5	
35	Five times seven is . . .
150	Five times three tens is . . .
+ 1000	Five times two hundreds is . . .

Concept Development

237	
x 5	
35	Five times seven is . . .
150	Five times three tens is . . .
+ 1000	Five times two hundreds is . . .
1,185	Five times 237

Concept Development



Concept Development

Problem 3:

Shane measured 457 mL of water in a beaker. Olga measured 3 times as much water. How much water did they measure altogether?

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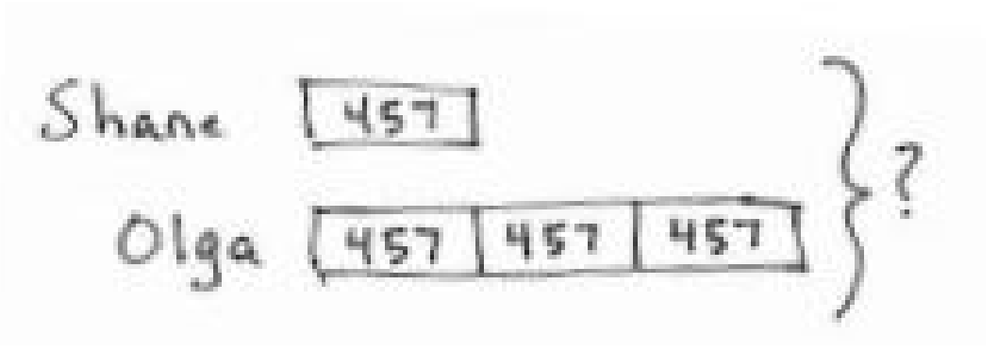

Concept Development

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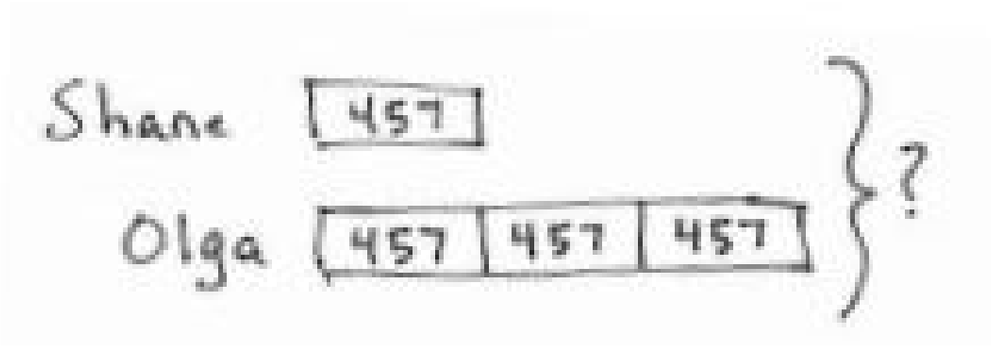
Solve using the standard algorithm.



Concept Development

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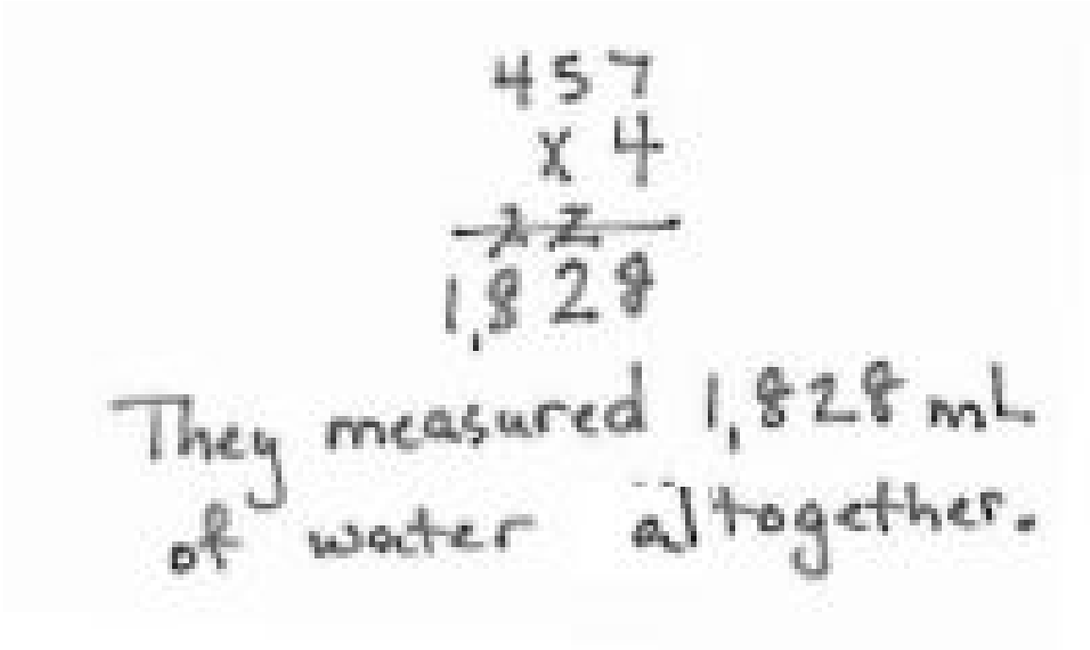

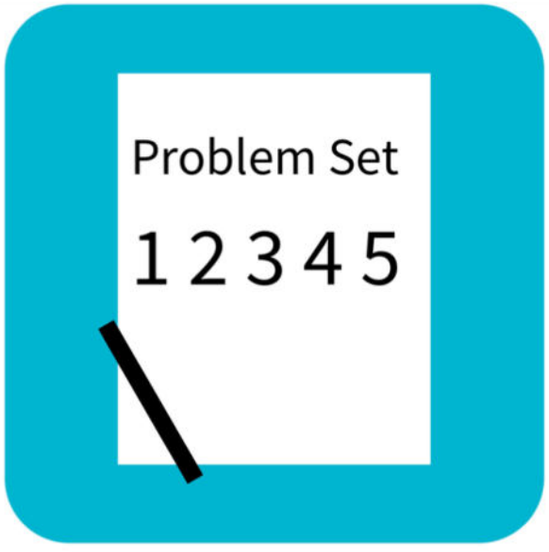

Problem Set

Name _____ Date _____

1. Solve using each method.

Partial Products	Standard Algorithm
a. 3 4 × 4	3 4 × 4

Partial Products	Standard Algorithm
b. 2 2 4 × 3	2 2 4 × 3

2. Solve. Use the standard algorithm.

a.	b.	c.
2 5 1 × 3	1 3 5 × 6	3 0 4 × 9

Debrief

Explain to your partner how you used partial products and the standard algorithm to solve Problems 1(a) and 1(b). Why do both methods work? How are they different?

Look at the questions in Problem 2. Which ones would give you estimates that are very close to the actual product if you rounded the larger number to the hundreds place?

Do you think that you would get a different answer for Problem 4 if the question instead asked you to find 457 times as much as 9? Why or why not?

Debrief

Explain to your partner how you solved Problem 7. How did you keep track of what each of the numbers meant?

How could you use a tape diagram to represent the work you did on the Application Problem?

What significant vocabulary did we use today?

Exit Ticket

Name _____ Date _____

1. Solve using the standard algorithm.

a.	b.
6 0 8 × 9	5 7 4 × 7