Eureka Math

4th Grade
Module 3
Lesson 34

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Directions for customizing presentations are available on the next slide.

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Icons

Read, Draw, Write

Learning Target

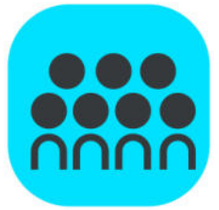
Personal White Board

Problem Set

Manipulatives Needed

Fluency

Think Pair Share



Whole Class

Individual

Partner

Small Group

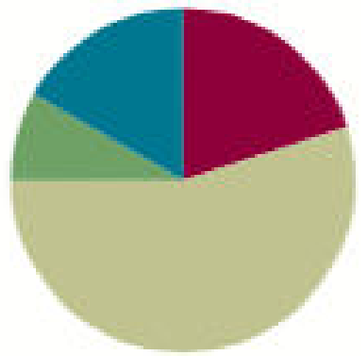
Small Group Time

Lesson 34

Objective: Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.

Suggested Lesson Structure

Fluency Practice	(12 minutes)
Application Problem	(5 minutes)
Concept Development	(33 minutes)
Student Debrief	(10 minutes)
Total Time	**(60 minutes)**



Multiply two-digit multiples of 10 by two-digit numbers using a place value chart.

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 3 equal parts.

Shade in 1 part of 3

What fraction is shaded?

Divide

Divide 732/6 in three different ways.

Place Value Disks

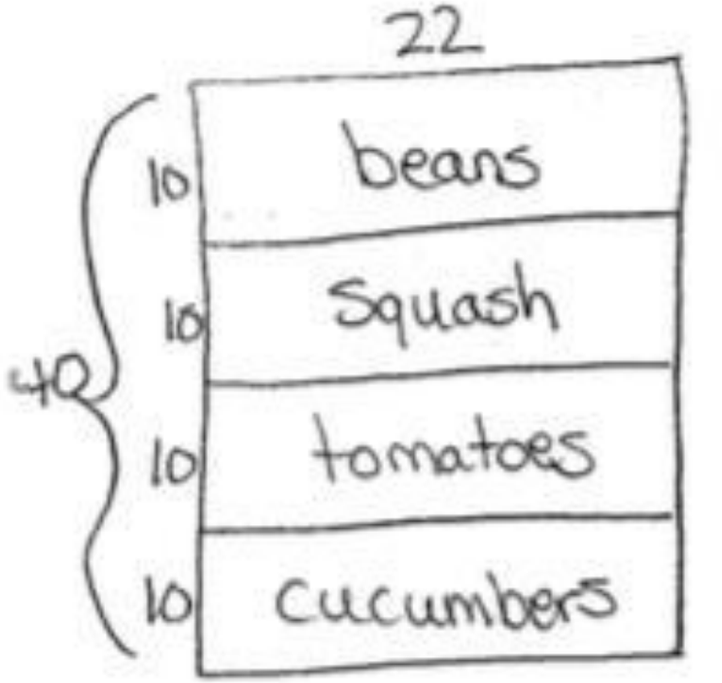
Area model

Standard algorithm

Application Problem

Mr. Goggins planted 10 rows of beans, 10 rows of tomatoes, and 10 rows of cucumbers in his garden. He put 22 plants in each row. Draw an area model, label each part, and then write an expression that represent the total number of plans in the garden.

Let's take a look at the area model from the application problem.



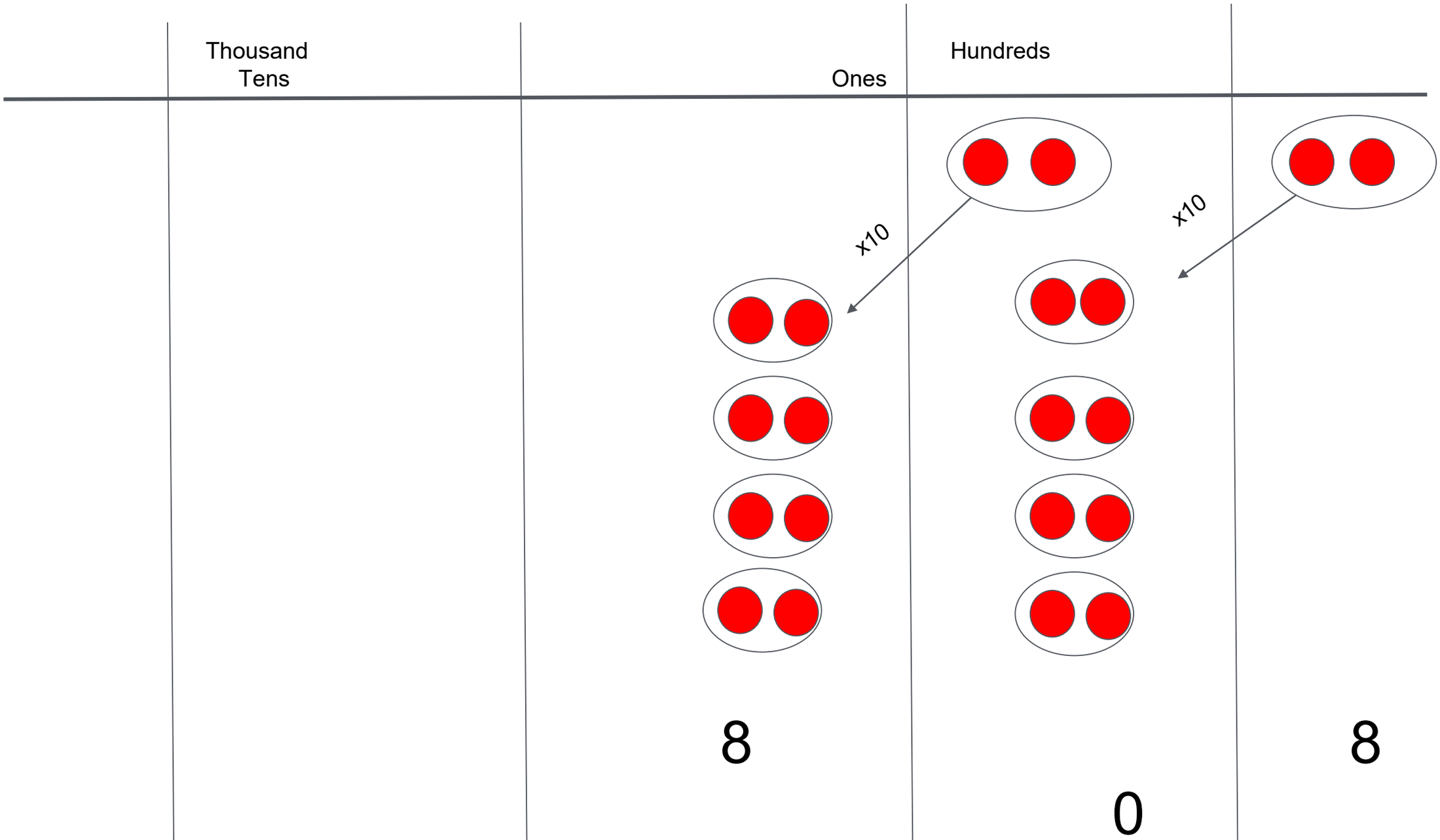
How many 10 x 22 rectangles are in the model?

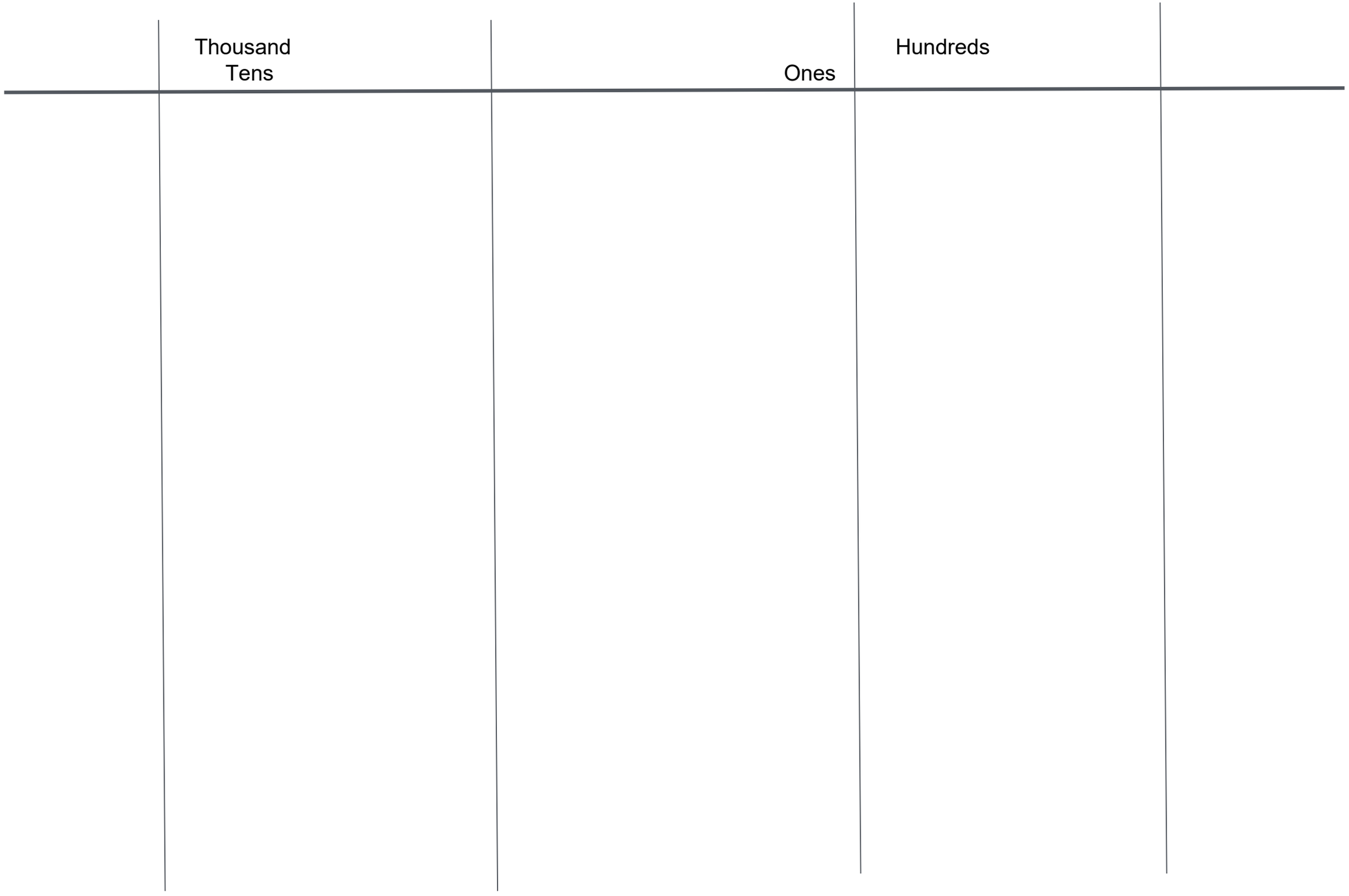
How can we write that?

Do you agree with the following statement? (4x10)x22 = 40 x 22

40 x 22 on a place value chart!

40 x 22= (4x10) x 22




Thousand
Tens
Ones
Hundreds

Multiply 50 x 31

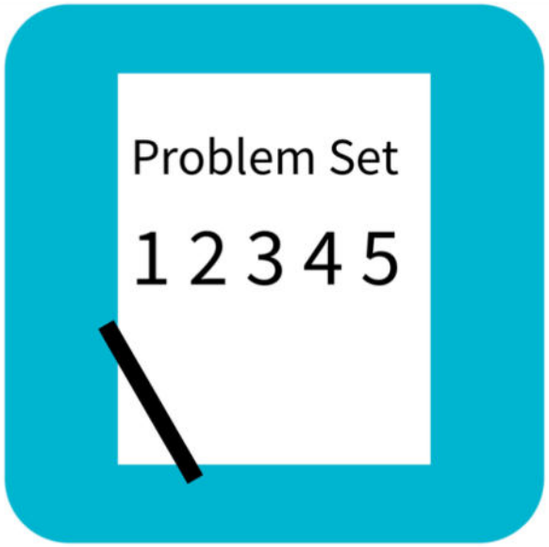
What is another way to express 50 x 31?

Solve 50 x 31 using the representations you talked about on a place value chart.

Thousand	Hundreds	Tens	Ones

Multiply 50 x 31

Solve 50 x 31 without a place value chart.



Problem Set

Name _____ Date _____

1. Use the associative property to rewrite each expression. Solve using disks, and then complete the number sentences.

   a. 30×24

   $= (\_\_\_\_ \times 10) \times 24$

   $= \_\_\_\_ \times (10 \times 24)$

   $= \_\_\_\_\_$

hundreds	tens	ones

Debrief

- In Problem 1(a), is it best to model 30 or 24 on the chart initially? Why?
- Tell your partner how you used the associative property in Problem 3(a). Is there an order you find easier for multiplying the three factors like when multiplying using the place value chart?
- Why was it helpful to break the multiple of 10 into two factors before solving?
- How did distributing the second factor in Problem 4 of the Concept Development make it easier to solve?
- Compare Problems 3(a) and 4(a). Why did you get the same answer by using two different methods? What does this tell you about the associative and distributive property? Compare their processes. How are they different?
- How did representing the multiplication with disks help you solve and understand the multiplication?
- How did the Application Problem connect to today's lesson?

Exit Ticket

Name _____ Date _____

1. Use the associative property to rewrite each expression. Solve using disks, and then complete the number sentences.

20 × 41

____ × ____ × ____ = ____

hundreds	tens	ones