Unit 8, Lesson 12

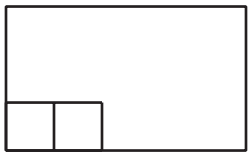
Partition Rectangles into Squares

Let's partition rectangles into squares.

Warm-up

Estimation Exploration: Fill It Up

How many squares will fill the rectangle?



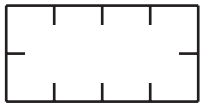
Record an estimate that is:

too low	about right	too high

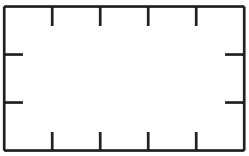
Activity 1

How Many Squares?

1. Build a rectangle with 8 tiles in 2 rows. Use a ruler to partition this rectangle to match the rectangle you built.



2. Use a ruler. Partition the rectangle using the tick marks.

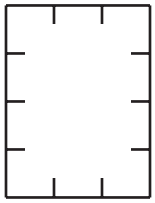


   a. How many rows of equal-size squares did you make?

   b. How many columns did you make?

   c. Write 2 equations to represent the total number of equal-size squares.

3. Use a ruler. Partition the rectangle using the tick marks.



a. How many rows of equal-size squares did you make?

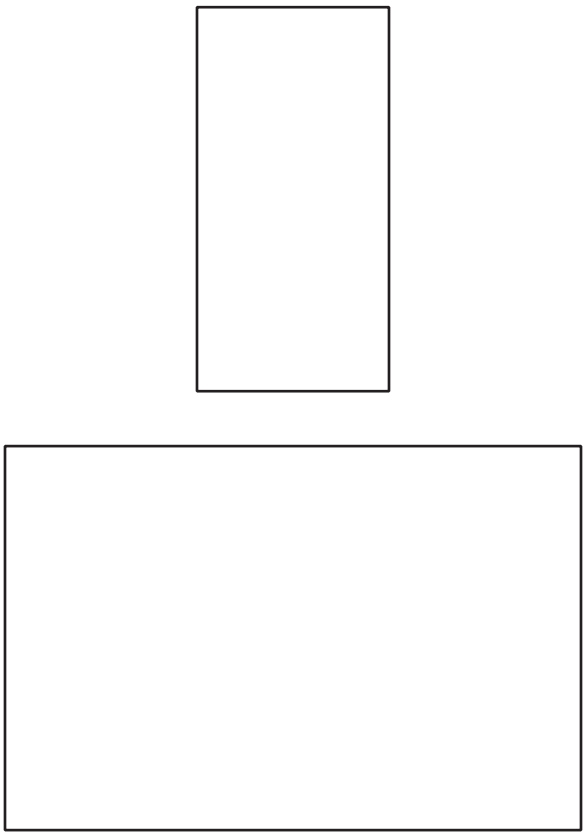
b. How many columns did you make?

c. Write 2 equations to represent the total number of equal-size squares.

Activity 2

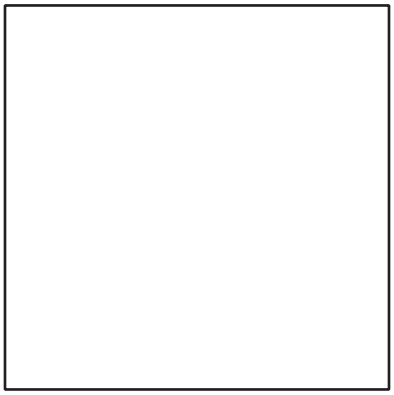
Partition Rectangles

1. Use 12 tiles to make a rectangle. Then choose 1 of these 2 rectangles. Partition it into equal-size squares to match the rectangle you made with tiles.



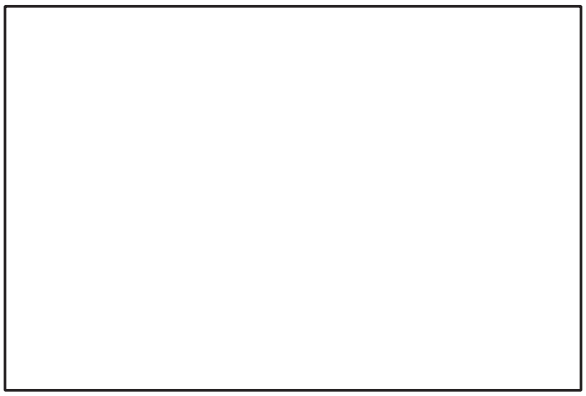
   a. Write 2 equations to represent the total number of squares.

2. Partition this rectangle into equal-size squares.



   a. Write 2 equations to represent the total number of squares.

3. Partition this rectangle into equal-size squares.



   a. Write 2 equations to represent the total number of squares.

Section B Summary

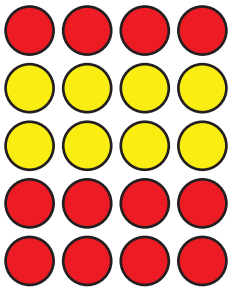
We learned that an **array** is a group of objects arranged in rows and columns. Arrays have the same number of objects in each row and in each column.

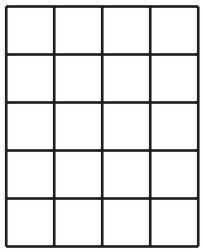
In an array:

- A **row** is a line of objects that goes side to side.
- A **column** is a line of objects that goes up and down.

We practiced counting the objects in arrays. We used expressions with equal addends to show the total number objects in an array. We added the sum of each row or the sum of each column.

We also learned that rectangles can be composed of an array of equal-size squares. Then we partitioned rectangles into rows and columns of equal-size squares.





$$4 + 4 + 4 + 4 + 4 = 20$$

or

$$5 + 5 + 5 + 5 = 20$$