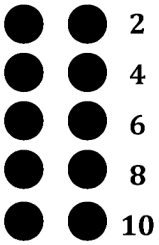
1. Draw an array that shows 5 rows of 2.



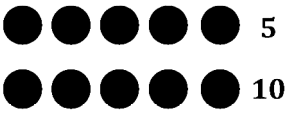
I can draw an array that has 5 rows with 2 dots in each row.

Write a multiplication sentence where the first factor represents the number of rows.

5 × 2 = 10

I can write a multiplication sentence with 5 as the first factor because 5 is the number of rows. The second factor is 2 because there are 2 dots in each row. I can skip-count by 2 to find the product, 10.

2. Draw an array that shows 2 rows of 5.



I can draw an array that has 2 rows with 5 dots in each row.

Write a multiplication sentence where the first factor represents the number of rows.

2 × 5 = 10

I can write a multiplication sentence with 2 as the first factor because 2 is the number of rows. The second factor is 5 because there are 5 dots in each row. I can skip-count by 5 to find the product, 10.

3. Why are the factors in your multiplication sentences in a different order?

The factors are in a different order because they mean different things. Problem 1 is 5 rows of 2, and Problem 2 is 2 rows of 5. In Problem 1, the 5 represents the number of rows. In Problem 2, the 5 represents the number of dots in each row.

The arrays show the commutative property. The order of the factors changed because the factors mean different things for each array. The product stayed the same for each array.

4. Write a multiplication sentence to match the number of groups. Skip-count to find the totals.

   a. 7 twos: $\mathbf{7 \times 2 = 14}$

   b. 2 sevens: $\mathbf{2 \times 7 = 14}$

7 twos is unit form. It means that there are 7 groups of 2. I can represent that with the multiplication equation $7 \times 2 = 14$. 2 sevens means 2 groups of 7, which I can represent with the multiplication equation $2 \times 7 = 14$.

I see a pattern! 7 twos is equal to 2 sevens. It's the commutative property! The factors switched places and mean different things, but the product didn't change.

5. Find the unknown factor to make each equation true.

$2 \times 8 = 8 \times \underline{\mathbf{2}}$

$\underline{\mathbf{4}} \times 2 = 2 \times 4$

To make true equations, I need to make sure what's on the left of the equal sign is the same as (or equal to) what's on the right of the equal sign.

I can use the commutative property to help me. I know that $2 \times 8 = 16$ and $8 \times 2 = 16$, so I can write 2 in the first blank. To solve the second problem, I know that $4 \times 2 = 8$ and $2 \times 4 = 8$. I can write 4 in the blank.

Name _____ Date _____

1. a. Draw an array that shows 7 rows of 2.

   b. Write a multiplication sentence where the first factor represents the number of rows.

   _____ × _____ = _____

2. a. Draw an array that shows 2 rows of 7.

   b. Write a multiplication sentence where the first factor represents the number of rows.

   _____ × _____ = _____

3. a. Turn your paper to look at the arrays in Problems 1 and 2 in different ways. What is the same and what is different about them?

   b. Why are the factors in your multiplication sentences in a different order?

4. Write a multiplication sentence to match the number of groups. Skip-count to find the totals. The first one is done for you.

   a. 2 twos: 2 × 2 = 4

   b. 3 twos: _____

   c. 2 threes: _____

   d. 2 fours: _____

   e. 4 twos: _____

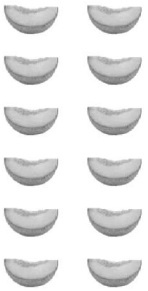
   f. 5 twos: _____

   g. 2 fives: _____

   h. 6 twos: _____

   i. 2 sixes: _____

5. Write and solve multiplication sentences where the second factor represents the size of the row.



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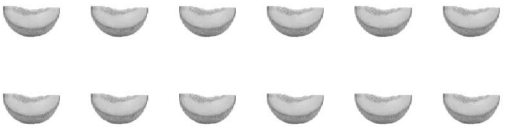

_____

6. Angel writes 2 × 8 = 8 × 2 in his notebook. Do you agree or disagree? Draw arrays to help explain your thinking.

7. Find the missing factor to make each equation true.

2 × 6 = 6 × _____

_____ × 2 = 2 × 7

9 × 2 = _____ × 9

2 × ____ = 10 × 2

8. Tamia buys 2 bags of candy. Each bag has 7 pieces of candy in it.
   a. Draw an array to show how many pieces of candy Tamia has altogether.

   b. Write and solve a multiplication sentence to describe the array.

   c. Use the commutative property to write and solve a different multiplication sentence for the array.