Distributive Property With Algeblocks

Name _____

Use the yellow piece to represent x and the green piece to represent one unit.

1. Arrange 4X's and 8 units into groups so that each group is identical to the other groups. Sketch your work. Write a variable expression using parentheses to represent your groups.

2. Find another way to group 4X and 8 units so that each group is identical. Sketch your work. Write a variable expression using parentheses to represent your grouping.

3. Arrange 8X's and 12 units into groups so that each group is identical to the other groups. Sketch your work. Write a variable expression using parentheses to represent your groups.

4. Find another way to group 8X and 12 units so that each group is identical. Sketch your work. Write a variable expression using parentheses to represent your grouping.

5. Arrange 6X and 6 units into groups so that each group is identical to the other groups. Sketch your work. Write a variable expression using parentheses to represent your groups.

6. Find another way to group 6X and 6 units so that each group is identical. Sketch your work. Write a variable expression using parentheses to represent your grouping.

7. Make up a problem of your own. Show the X's and units in your sketch and write the algebraic expression for your problem.

8. Build and sketch 3(x + 3).

Now rearrange the Algeblocks so all X's are grouped together and all units are grouped together. Sketch your new arrangement.

Write a variable expression for the rearranged Algeblocks.

9. Build and Sketch 2(3x + 4).

Now rearrange the Algeblocks so all X's are grouped together and all units are grouped together. Sketch your new arrangement.

Write a variable expression for the rearranged Algeblocks.

Use the distributive property to write the problems below using parentheses.
Substitute a value for the variable to check your new expression with the original.

10. 2x + 14   11. 5x + 15

Use the distributive property to write the problems below without the parentheses
Substitute a value for the variable to check your new expression with the original.

12.   4(2x + 9)   13.   (W + 6)2

10. The problems above have demonstrated the distributive property of multiplication over addition and over subtraction. In your own words, explain the distributive property.