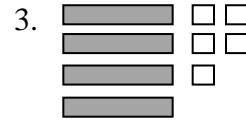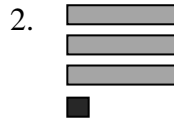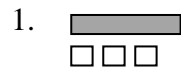# Distributive Property with Algebra Tiles

KEY: ▭ $= x$ ■ $= 1$ □ $= -1$

Write the expression represented by each group of tiles.

1.

2.

3.

Represent each expression using tiles. Draw your tiles below each expression.

4. $2x + 4$

5. $3x - 1$

6. $x - 4$

The expression $2(2x + 3)$ indicates two groups of tiles as shown below on the left. You can combine like terms to simplify the expression and you get what is shown below on the right.
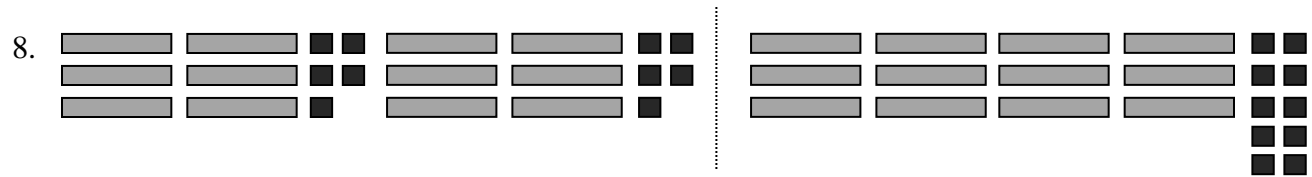

$2(2x + 3) =$ $2x + 3 + 2x + 3$ $=$ $4x + 6$

The tiles show that the product of 2 and $(2x + 3)$ is $4x + 6$. This illustrates the **Distributive Property**. The model above represents the equation $2(2x + 3) = 4x + 6$.

Write an equation for each model. (Use the example above as a guide.)

7.

8.

9.
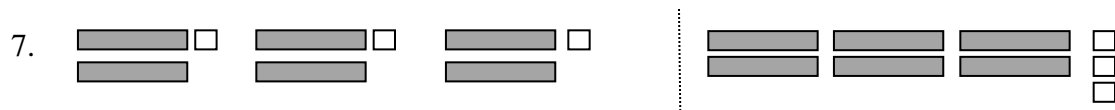
Use tiles to represent the expression. Then rewrite the expression without parenthesis.

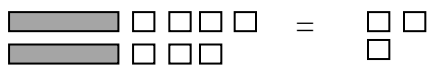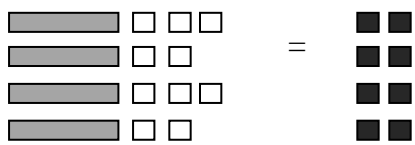10. $3(x + 1)$ 11. $4(2x - 3)$ 12. $2(3x - 1)$

13.   Does $4(2x - 5)$ equal $8x - 5$ or $8x - 20$? Explain.

Write an equation to model the picture.

14. $3x + 6 = 12$

15. $2x + 7 = 3$

16. $4x + 8 = 12$

Draw a picture to model the equation.

17. $4x - 7 = 2$

18. $2(3x + 1) = 5$

19. $3(2x - 4) = 9$

In problems 20 – 23, decide if the distributive property was applied correctly. Explain your answer.

20. $4(2x + 1) = 8x + 1$ **YES** or **NO**

21. $5(3x − 2) = 15x + 10$ **YES** or **NO**

22. $7(3x − 1) = 21x − 7$ **YES** or **NO**

23. $3(2 − 6x) = −18x + 6$ **YES** or **NO**

24.   Suppose one of our classmates was absent from class today. She will need to know what the distributive property means. Look over your work on this activity and briefly describe the distributive property below.