Name _____

Date _____Pd_____

THE DISTRIBUTIVE PROPERTY

Taylor and Tash each simplified the same expression using different approaches. Use their work to answer a-c.

TAYLOR

$5(9 + 2)$
$5(11)$

TASH

$5(9 + 2)$
$5(9) + 5(2)$

a. How does Taylor's approach differ from Tash's?

b. Complete each student's work. What do you notice?

c. Using Tash's approach, how could the expression $7(x + 2)$ be simplified?
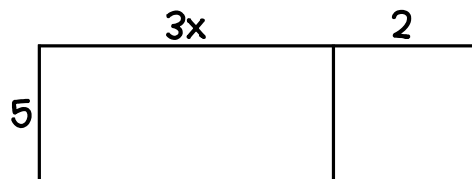

DISTRIBUTIVE PROPERTY

• The distributive property allows the _____ outside the parentheses to be _____ to the terms inside the parentheses.

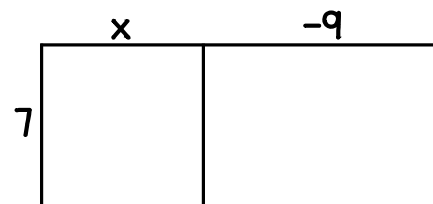• Ex: $3(2 + 7) = 3(2) + 3(7)$ and $3(x + 7) = 3(x) + 3(7)$.

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1. Each of the four members of the Robinson family ordered a drink (d), two slices of pizza (p), and an ice cream cone (c) as shown. Distribute and write an expression to represent their order.

$4 ($ SODA $+$ 🍕🍕 $+$ 🍦 $)$
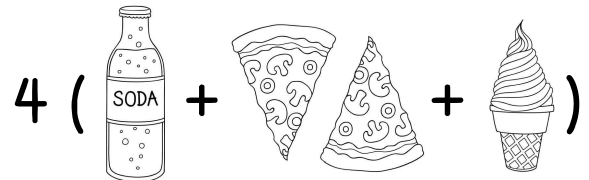
2. Use the area model to distribute $5(3x + 2)$.

	3x	2
5		

3. Use the area model to distribute $7(x - 9)$.

	x	-9
7		

Simplify the following expressions using the distributive property.

4. $5(6x + 9)$	5. $4(3k - 2)$	6. $1.5(6t + 2)$

Simplify the following expressions using the distributive property.

7. $\frac{1}{2}(8 - 6j)$	8. $8(p + 7 + 2q)$	9. $4(3.2d - 10)$

Simplify the expressions using the distributive property. Then, combine any like terms.

10. $6(4c - 2) + 10$	11. $6(3b + 7) + 5b$	12. $3x + 2(4x + 7)$

FACTORING AN EXPRESSION	• Expressions can be _____ to remove the common factor. This is how we _____ the distributive property.
	1. Determine the greatest common factor between the values.
	2. Remove the greatest common factor by dividing each term by it.
	Ex: $6x + 15$; the GCF is 3, so $3(2x + 5)$

Use the area model to identify the GCF of $4x + 16$ and factor it from the expression.

GCF: _____

4x	16

In 13-15, rewrite each expression by factoring out the GCF.

13. $6a + 2$	14. $24x - 9$	15. $10x + 35$

16. Tahlia has 12 cups of flour in her pantry. Each time she bakes cookies, she uses 2 cups of flour.

a. Write an expression that gives the cups of flour Tahlia has left in terms of n, the number of times she has baked cookies.

b. Use factoring to write an equivalent expression to the expression in part a.