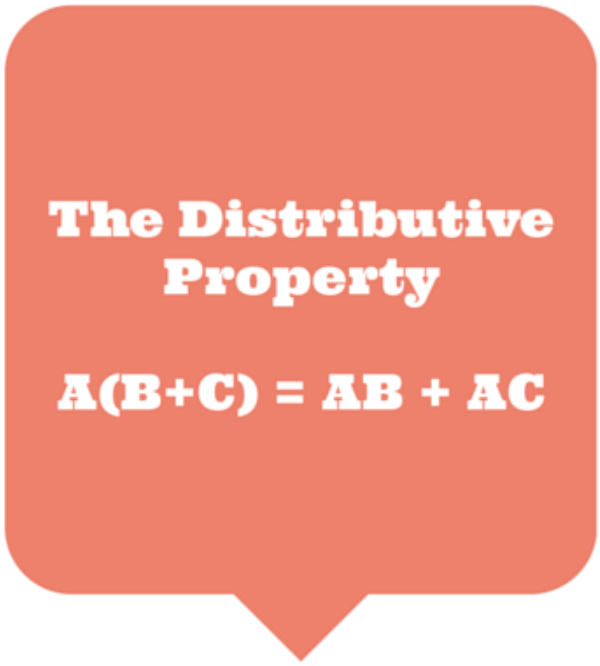
Distributive Property Guided Notes

Subject(s): Pre-Algebra, Algebra 1, Math 1

Teacher Key Now Included!



MATH with Mrs. Holst

Introduce students to multiple ways of using the distributive property! These attractive guided notes show multiple ways of using the distributive property, including the box method, and include practice problems (You Do's) for the students. Both simple numeric and algebraic examples are included.

EQ: How do I use the distributive property to evaluate and simplify expressions?

Formal Definition
For any numbers a, b, and c,

_____

_____

What do you know about distribution? Draw it!

The Distributive Property

Numeric Examples
1. $3(2 + 5)$

2. $4(9 - 7)$

Algebraic Examples
1. $5(g - 9)$

2. $3(2x^2 + 4x - 1)$

THE BOX METHOD
***Distribute & add 'em up!**
1. $4(x + 3)$

_____

2. $3(2x^2 + 4x - 1)$

_____

Application

The Hernandez family owns two cars. In 2009, they drove the first car 18,000 miles and the second car 16,000 miles. If it costs 65¢, on average, per mile to own and operate a vehicle, find the total cost of operating both cars.

YOU DO!
1. $6(12 - 2)$

2. $2(4 + t)$

3. $4(3g + 2)$

4. $3(5x^2 - 4x + 1)$

EQ: How do I use the distributive property to evaluate and simplify expressions?

Formal Definition

For any numbers a, b, and c,

$a(b + c) = ab + ac$

What do you know about distribution? Draw it!

Examples: Students passing out (distributing) papers; Paper boy

The Distributive Property

Numeric Examples

1. $3(2 + 5)$

$=3*2 + 3*5$

$=6+15$

$=21$

2. $4(9 – 7)$

$=4*9 – 4*7$

$=36 – 28$

$=8$

Algebraic Examples

1. $5(g – 9)$

$=5g – 5*9$

$=5g - 45$

2. $3(2x^2 + 4x – 1)$

$=3(2x^2) + 3(4x) + 3(-1)$

$=6x^2 + 12x - 3$

THE BOX METHOD

***Distribute & add 'em up!**

1. $4(x + 3)$

4	x	3
	$4x$	12

$4x + 12$

2. $3(2x^2 + 4x – 1)$

3	$2x^2$	$4x$	-1
	$6x^2$	$12x$	-3

$6x^2 + 12x - 3$

Application

The Hernandez family owns two cars. In 2009, they drove the first car 18,000 miles and the second car 16,000 miles. If it costs 65¢, on average, per mile to own and operate a vehicle, find the total cost of operating both cars.

$.65(18,000 + 16,000)$

$=11,700 + 10,400$

$=22,100$

YOU DO!

1. $6(12 – 2)$

$=6(12) – 6(2)$

$=72-12$

$=60$

2. $2(4 + t)$

$=2(4) + 2(t)$

$=8+2t$

3. $4(3g + 2)$

$=4(3g) + 4(2)$

$=12g + 8$

4. $3(5x^2 – 4x + 1)$

$=3(5x^2) – 3(4x) + 3(1)$

$= 15x^2 – 12x + 3$