

Name _____

Hr. _____ Date _____

DP-A

Distributive Property A

You won't be able to accurately solve equations until you understand and are able to apply the Distributive Property (Law).

General statement: $a(b + c) = ab + ac$

Example 1: $3(4 + 5) = 3(4) + 3(5)$. Since there are only constants in this expression, you could have simplified the parentheses first, then multiplied by 3 to get 27.

Do you also get 27 if you add $3(4) + 3(5)$? _____

Example 2: $3(x + 5) = 3(x) + 3(5)$. We write $3(x)$ as $3x$ and $3(5) = 15$. So, $3(x + 5) = 3x + 15$

Why could we NOT simplify the parentheses in Example 2? _____

- | | | | | | | | |
|-----|-------------|-------------|-------------|-------------|-------------|--------------|-------------|
| 1) | $3(x+4)$ | $2(x+5)$ | $5(x+1)$ | $7(x+3)$ | $4(x+9)$ | $9(x+4)$ | $8(x+7)$ |
| 2) | $3(2x+4)$ | $2(2x+5)$ | $5(2x+1)$ | $7(2x+3)$ | $4(2x+9)$ | $9(2x+4)$ | $8(2x+7)$ |
| 3) | $3(3x+5)$ | $2(4x+3)$ | $7(4x+1)$ | $6(7x+9)$ | $1(3x+7)$ | $9(2x+11)$ | $7(4x+18)$ |
| 4) | $-(2x+1)$ | $-(4x+3)$ | $-(7x+3)$ | $-(5x+10)$ | $-(11x+2)$ | $-(21x+8)$ | $-(4x+7)$ |
| 5) | $3(x-4)$ | $2(x-5)$ | $5(x-1)$ | $7(x-3)$ | $4(x-9)$ | $9(x-4)$ | $8(x-7)$ |
| 6) | $3(-2x+4)$ | $2(-2x+5)$ | $5(-2x+1)$ | $7(-2x+3)$ | $4(-2x+9)$ | $9(-2x+4)$ | $8(-2x+7)$ |
| 7) | $3(-3x-5)$ | $4(-3x-5)$ | $7(-5x-3)$ | $8(-4x-1)$ | $5(-4x-3)$ | $2(-10x-11)$ | $3(-5x-2)$ |
| 8) | $3(-x+3)$ | $4(-x+2)$ | $7(-x+5)$ | $9(-x+5)$ | $2(-x+19)$ | $6(-x+6)$ | $8(-x+5)$ |
| 9) | $4(-x-5)$ | $5(-x-5)$ | $3(-x-10)$ | $9(-x-8)$ | $2(-x-1)$ | $7(-x-6)$ | $6(-x-6)$ |
| 10) | $-3(x+4)$ | $-2(x+5)$ | $-5(x+1)$ | $-7(x+3)$ | $-4(x+9)$ | $-9(x+4)$ | $-8(x+7)$ |
| 11) | $-3(2x+4)$ | $-2(2x+5)$ | $-5(2x+1)$ | $-7(2x+3)$ | $-4(2x+9)$ | $-9(2x+4)$ | $-8(2x+7)$ |
| 12) | $-3(2x-1)$ | $-2(4x-3)$ | $-7(4x-1)$ | $-6(7x-9)$ | $-1(3x-7)$ | $-9(2x-11)$ | $-7(4x-18)$ |
| 13) | $-3(-2x-4)$ | $-2(-2x-5)$ | $-5(-2x-1)$ | $-6(-3x-2)$ | $-2(-2x-9)$ | $-(-x-1)$ | $-9(-9x-4)$ |