

Name \_\_\_\_\_

Hr. \_\_\_\_\_ Date \_\_\_\_\_

DP-B

## Distributive Property B

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)  | $-(7x + 3)$   | $-(4x + 7)$  | $4(x + 1)$    | $3(-2x + 4)$  | $-5(x + 3)$   | $7(-2x - 3)$   | $-8(2x + 7)$  |
| 2)  | $9(2x + 4)$   | $-2(x + 5)$  | $-(2x + 1)$   | $7(2x + 3)$   | $4(2x + 9)$   | $3(2x + 4)$    | $18(x - 7)$   |
| 3)  | $3(9x + 5)$   | $2(4x + 3)$  | $27(4x + 1)$  | $6(7x + 9)$   | $1(3x + 7)$   | $9(2x + 11)$   | $8(-2x + 7)$  |
| 4)  | $9(x + 5)$    | $8(3x + 7)$  | $-(-x - 1)$   | $-(5x + 10)$  | $2(-x - 1)$   | $-(21x + 8)$   | $-15(2x + 1)$ |
| 5)  | $-3(x - 4)$   | $7(x + 3)$   | $-5(x + 1.5)$ | $-3(12x + 4)$ | $-1(x - 9)$   | $9(x - 4)$     | $7(4x + 18)$  |
| 6)  | $-6(-9x - 2)$ | $2(-2x + 5)$ | $40(-x - 5)$  | $-1(3x - 7)$  | $4(-2x + 9)$  | $-(11x + 2)$   | $2(x - 5)$    |
| 7)  | $3(-3x - 5)$  | $-4(2x + 9)$ | $7(-5x - 3)$  | $-1(-4x - 1)$ | $-5(2x + 1)$  | $2(-10x - 11)$ | $3(-10x + 3)$ |
| 8)  | $-3(-5x - 2)$ | $24(-x + 2)$ | $-(4x + 3)$   | $9(-x + 5)$   | $-7(2x + 3)$  | $6(-x + 1.5)$  | $28(-x + 5)$  |
| 9)  | $-2(-2x - 5)$ | $5(-x - 5)$  | $3(-x - 11)$  | $-1(-x - 8)$  | $-1(-2x + 4)$ | $-9(-9x - 4)$  | $8(x + 7)$    |
| 10) | $9(-x - 6)$   | $2(2x + 5)$  | $7(-x + 5)$   | $4(x + 9)$    | $-4(x + 9)$   | $-9(x + 4)$    | $-8(x + 7)$   |
| 11) | $5(-2x + 1)$  | $-2(2x + 5)$ | $5(-4x - 3)$  | $2(-x + 19)$  | $4(-3x - 5)$  | $-9(2x + 4)$   | $1(-x - 6)$   |
| 12) | $-3(2x - 1)$  | $-2(4x - 3)$ | $-7(4x - 1)$  | $-6(7x - 9)$  | $8(x + 4)$    | $-9(2x - 11)$  | $-7(4x - 18)$ |
| 13) | $-3(-2x - 4)$ | $7(x - 3)$   | $-5(-2x - 1)$ | $5(x - 1)$    | $-2(-2x - 9)$ | $-3(x + 4)$    | $3(x + 4)$    |