

|-1D: Distributive Property

10-8-15

Distributive Property: multiply across addition

- multiply each number inside parenthesis by the number outside the parenthesis

Ex 1: Use the distributive property to write each expression as an equivalent expression.

$$\begin{aligned} \text{A) } & 4(x+2) \\ & 4x + 4(2) \\ & \boxed{4x+8} \end{aligned}$$

$$\begin{aligned} \text{B) } & (7+3y)10 \\ & 10(7+3y) \\ & 10(7) + 10(3y) \\ & 70 + 30y \\ & \boxed{30y+70} \end{aligned}$$

* standard form
(term with variable listed first)

$$\begin{aligned} \text{C) } & -8(a+1) \\ & -8(a) + (-8)(1) \\ & -8a + -8 \leftarrow \text{not simplified} \\ & \boxed{-8a-8} \end{aligned}$$

$$\begin{aligned} \text{D) } & -16(c-2) \\ & -16c - (-16)(2) \\ & -16c - (-32) \\ & \boxed{-16c+32} \end{aligned}$$

$$\begin{aligned} \text{E) } & (-12-m)(-4) \\ & -4(-12-m) \\ & -4(-12) - (-4m) \\ & 48 - (-4m) \\ & \boxed{4m+48} \end{aligned}$$

$$\begin{aligned} \text{F) } & -(5n-9) \\ & -1(5n-9) \\ & -1(5n) - (-1)(9) \\ & -5n - (-9) \\ & \boxed{-5n+9} \end{aligned}$$

* Think of $x-4$ as x and a negative 4.
Therefore,
 $-2(x-4)$
 $-2(x)$ and $-2(-4)$
 $\boxed{-2x+8}$

HW: GPA 4-1 Practice WS (13-36)