

4-1D Distributive Property

10-8-15

Glennbe Math 7

Distributive Property - multiply across addition

- Multiply each number inside the parentheses by the number outside the parentheses

Ex. 1 Use the Distributive Property to write each expression as an equivalent expression.

A) $4(x+2)$

$$4(\overbrace{x+2})$$

$$4x + 4(2)$$

$$\boxed{4x + 8}$$

B) $(7+3y)10$

$$10(\overbrace{7+3y})$$

$$10(7) + 10(3y)$$

$$70 + 30y$$

$$\boxed{30y + 70}$$

C) $-8(a+1)$

$$-8(\overbrace{a+1})$$

$$-8a + (-8)(1)$$

$$-8a + (-8)$$

Not simplified

$$\boxed{-8a - 8}$$

D) $-16(c-2)$

$$-16(\overbrace{c-2})$$

$$-16c - (-16)(2)$$

$$-16c - (-32)$$

$$\boxed{-16c + 32}$$

* Write in standard form (term with variable listed first)

E) $(-12-m)(-4)$

$$-4(\overbrace{-12-m})$$

$$-4(-12) - (-4)(m)$$

$$48 - (-4m)$$

$$48 + 4m$$

$$\boxed{4m + 48}$$

F) $-(5n-9)$

$$-1(\overbrace{5n-9})$$

$$\boxed{-5n + 9}$$

Think $x-4$ as x and a negative 4.

Therefore

$$-2(x-4)$$

$$-2(x) \text{ and } -2(-4)$$

$$\boxed{-2x + 8}$$