

Algebra Foundations

CW 8 Distributive Property

Name: _____

Date: _____ Per. _____

1. Three friends went bowling. They each paid \$2 to rent shoes and \$4 to rent a bowling lane.

- a. Use **order of operations** to simplify an expression for the total amount, in dollars, that the friends spent.

$$3(2+4) = 3(\quad) =$$

The total amount spent is _____

- b. Jack says that the expression $(3 \bullet 2) + (3 \bullet 4)$ is the correct way to find the total because 3 people are paying \$2 and then 3 people are paying \$4. Use **order of operations** to simplify that expression

$$(3 \bullet 2) + (3 \bullet 4) = (\quad) + (\quad) =$$

The total amount spent is _____

- c. Compare how the expressions simplify. Are they both correct?

2. Write each expression as a sum of two products and then simplify.

a. $4(8+5) = (\quad) + (\quad) =$

b. $7(10+6) = (\quad) + (\quad) =$

c. $5(26) = 5(20 + \quad) = (\quad) + (\quad) =$

d. $7(26) = 7(30 - \quad) = (\quad) - (\quad) =$

The distributive property can help make computations easier, and it can be used to simplify variable expressions.

3. Write each expression as a sum of two products and then simplify.

a. $4(x+6) = (\quad) + (\quad) =$

b. $-3(10+x) = (\quad) + (\quad) =$

c. $3(2x+1) = (\quad) + (\quad) =$

d. $-8(4-3x) = (\quad) + (\quad) =$

e. $-2(9x+1)+5 = (\quad) + (\quad) + 5 =$

f. $7+2(5-4x) = 7 + (\quad) + (\quad) =$

g. $9+2(x-3)+7(3-4y) = 9 + (\quad) + (\quad) + (\quad) + (\quad) =$

4. Write out a set of instructions for how to use the **distributive property**.