


THE DISTRIBUTIVE PROPERTY

$$a(b+c) = ab+ac$$

An algebra property which is used to multiply a single term and two or more terms inside a set of parentheses.

"GET RID OF PARENTHESES!"


$$a(b+c) = a(b)+a(c) \\ = ab+ac$$

Part 1: Use the Distributive Property to simplify the following expressions.

1. $5(y + 8w)$

3. $6(x + y)$

2. $2(x + 5) + 3(5x + 6)$

4. $3(x + 14) + 2(x + 10)$

Part 2: Use the Distributive Property to write equivalent expressions.
Rewrite each expression as a product using the distributive property.

1. $18x + 24y$

3. $24x + 15y$

2. $12x + 12y$

4. $28 + 4y$

ME: _____

CORE: _____


DATE: _____


Notes - Distributive Property

What do you know about distribution
- outside of math class?

What is the
distributive property?

_____ the number on the outside to every
_____ on the _____ of the parentheses.

Ex:  $4(a + 3) = 4a + 12$

Ex:  $6(4 - b) = 24 - 6b$

$5(x + 7)$

$3(m - 4)$

$(y + 3)2$

$\frac{1}{2}(6a - 2b)$

$4(a - 6)$

$5(8 + r)$

$6(5a - 2c)$

$4(3x^2 + 5x - 9)$

$8(z - 4)$

$\frac{1}{2}(8y + 12)$

$7(3x - 2w - 3)$

$6(3j^2 - 5k)$

$(3x - 5)x$

$12(2e^2 - \frac{1}{4})$

$0.4(2r - 5)$

$3(g^2 + 5g - 6)$

1. Felipe and Shannon were asked by Mr. Kim to use the Distributive Property of Multiplication to find the product for 56×45 . Each wrote his/her solution on the paper and showed it to Mr. Kim.

Felipe wrote: $(56 \times 40) + (56 \times 5)$

Shannon wrote: $(50 \times 45) + (6 \times 5)$

Who is *correct* ?

- A. Felipe is correct.
- B. Shannon is correct.
- C. Both Felipe and Shannon are correct.
- D. Neither Felipe nor Shannon is correct.

2. Steve and Alec go to a baseball game. Pretzels cost \$4 each, and hotdogs cost \$4 each. Steve and Alec order 2 pretzels and 6 hotdogs. They calculate the total price differently.

Steve: $(2 \text{ pretzels} + 6 \text{ hotdogs}) \times \4
Alec: $(2 \text{ pretzels} \times \$4) + (6 \text{ hotdogs} \times \$4)$

Which property allows Steve and Alec to obtain the same correct answer?

- A. Associative Property
- B. Commutative Property
- C. Distributive Property
- D. Inverse Property

3. Which displays the Distributive Property?

- A. $11 \times 3 = 3 \times 11$
- B. $11(3 \times 7) = 3(11 \times 7)$
- C. $11(3 + 7) = 7(11 + 3)$
- D. $11(3 + 7) = 11(3) + 11(7)$

4. An expression is written in the box.

$14p - 21$

Which expression applies the Distributive Property to create an equivalent expression?

- A. $7(2p - 21)$
- B. $7(2p - 3)$
- C. $14(p - 7)$
- D. $14(p - 21)$

5. Which equation below represents the Distributive Property of Multiplication?

- A. $(7 \times 2) \times 4 = 7 \times (2 \times 4)$
- B. $6 \times 7 = 7 \times 6$
- C. $8 \times (3 + 5) = 8 \times 3 + 8 \times 5$
- D. $9 \times 1 = 9$

Elizabeth and Juan were asked by Ms. Diaz to use the Distributive Property of Multiplication to find the product for 57×43 . They wrote their solutions to the problem in the boxes.

Elizabeth wrote
 $(57 \times 40) + (57 \times 3)$

Juan wrote
 $(50 \times 43) + (7 \times 43)$

Who is correct?

- A. Elizabeth only
- B. Juan only
- C. both Elizabeth and Jaun
- D. neither Elizabeth and Jaun

Rashad is opening a restaurant. He buys 12 tables for \$125 each, 12 chairs for \$65 each, and 12 tablecloths for n dollars each.

Which equation could be used to determine Rashad's total cost (C)?

- A. $C = 12(\$125 + \$65 + \$n)$
- B. $C = 12 + (\$125 + \$65 + \$n)$
- C. $C = (\$125 + \$65 + \$n) \div 12$
- D. $C = 12 + \$125 + \$65 + \$n$

8. Which operation is equivalent to $9,843 \times 18$?

- A. $10(9,843) + 8(9,843)$
- B. $10(9,843) \times 8(9,843)$
- C. $10(9,000) + 8(843)$
- D. $10(9,000) \times 8(843)$

9.) YESTERDAY AARON BOUGHT 6 DVD'S AT THE STORE. DVD'S COST \$9 EACH. TODAY HE BOUGHT 5 MORE. HOW MUCH MONEY DID HE SPEND ON DVD'S? CIRCLE ALL THAT APPLY.

- A. $9(6 + 5)$
- B. $(6 \cdot 9) + (5 \cdot 9)$
- C. $6 + (9 + 5)$
- D. $(6 + 9) + 5$
- E. $(6 \cdot 9) + 5$
- F. $(5+6) \cdot 9$

10.) THERE ARE 12 BASEBALL PLAYERS. EACH ONE HAS ONE GLOVE, TWO BASEBALL CAPS AND FOUR BASEBALLS. HOW MUCH GEAR IS THAT ALTOGETHER? USE THE DISTRIBUTIVE PROPERTY AND SOLVE.

11.) STACEY IS PLANNING A PICNIC. SHE THINKS EACH PERSON AT THE PICNIC WILL EAT 2 HOTDOGS AND $\frac{3}{4}$ OF A BAG OF CHIPS. SHE IS INVITING 5 FRIENDS TO THE PICNIC. HOW MUCH OF EACH ITEM DOES STACEY NEEDS TO BUY IN ORDER TO FEED EVERYONE INCLUDING HERSELF?

Name: _____ Date: _____

Homework Factoring / Distributive Property Worksheet

Use the distributive property to simplify the expressions.

1 a. $10(9 + 11n)$	1 b. $5(7n + 12)$
2 a. $7(5p + 8u + 8)$	2 b. $3(11a + c)$
3 a. $10(5 + 3a)$	3 b. $9(5 + 7w)$
4 a. $7(11q + 6 + 8b)$	4 b. $3(5u + g)$
5 a. $3(5t + 8 + 3p)$	5 b. $3(9s + 4 + 6p)$
6 a. $3(4m + 12n + 9)$	6 b. $9(11b + 6 + 11y)$
7 a. $12(8a + 5)$	7 b. $5(11y + 11c + 8)$