

The Distributive Property of Multiplication

The Distributive Property of Multiplication is a little more complex than the Commutative and Associate Properties of Multiplication. The Distributive Property states that when a sum is multiplied by a number, you have two choices:

1. You can multiply each addend by the number and then add the products, or
2. You can add the addends and then multiply.

Either way, the Distributive Property tells us that the answer will be the same. In order to fully understand how the Distributive Property works, let's use an example:

$$2 \times (4 + 6) = \underline{\hspace{2cm}}$$

The Distributive Property tells us that there are two ways to solve the above problem. If we follow the first option, then we would multiply each addend by the number in front and then add the products. In other words, if following #1, we would re-write our problem as:

$$\begin{aligned}(2 \times 4) + (2 \times 2) &= \underline{\hspace{2cm}} \\ 8 + (2 \times 2) &= \underline{\hspace{2cm}} \\ 8 + 4 &= 12\end{aligned}$$

However, the Distributive Property also tells us that there is a second option for solving our problem. If following #2, we would add the numbers in parentheses first, then do our multiplication. In other words, we would say:

$$\begin{aligned}2 \times (4 + 6) &= \underline{\hspace{2cm}} \\ 2 \times 10 &= 20\end{aligned}$$

No matter which method is used, the Distributive Property tells us that the answer will be the same. In other words, the Distributive Property tells us that:

$$2 \times (4 + 6) = (2 \times 4) + (2 \times 6)$$

The Distributive Property is very important and becomes easier to use with practice. The best way to learn how to use this property is by practicing. Alternating between the first and second methods will help you better understand how this property works.

Name _____

Date _____

The Distributive Property of Multiplication Questions

Is the following a correct use of the Distributive Property of Multiplication? (Please write “yes” if it the Distributive Property is being used and “no” if it is not being used):

_____ 1. $(2 \times 4) + (2 \times 2) =$ _____
 $8 + (2 \times 2) =$ _____
 $8 + 4 = 12$

_____ 2. $2 \times (4 + 6) = (2 \times 4) + (2 \times 6)$

_____ 3. $(9 + 4) + (1 + 2) =$ _____
 $13 + (1 + 2) =$ _____
 $13 + 3 = 16$

_____ 4. $(6 \times 4) - (7 + 2) =$ _____
 $24 - (7 + 2) =$ _____
 $24 - 9 = 15$

_____ 5. $2 \times (4 + 6) =$ _____
 $2 \times 10 = 20$

_____ 6. $(5 \times 3) + (6 \times 7) =$ _____
 $15 + (6 \times 7) =$ _____
 $15 + 42 = 57$

_____ 7. $4 \times (8 + 3) =$ _____
 $4 \times 11 = 44$

_____ 8. $5 \times (7 + 3) = (5 \times 7) + (7 \times 3)$

Name _____

Date _____

The Distributive Property of Multiplication Answers

Is the following a correct use of the Distributive Property of Multiplication? (Please write “yes” if it the Distributive Property is being used and “no” if it is not being used):

yes 1. $(2 \times 4) + (2 \times 2) =$ _____
 $8 + (2 \times 2) =$ _____
 $8 + 4 = 12$

yes 2. $2 \times (4 + 6) = (2 \times 4) + (2 \times 6)$

no 3. $(9 + 4) + (1 + 2) =$ _____
 $13 + (1 + 2) =$ _____
 $13 + 3 = 16$

no 4. $(6 \times 4) - (7 + 2) =$ _____
 $24 - (7 + 2) =$ _____
 $24 - 9 = 15$

yes 5. $2 \times (4 + 6) =$ _____
 $2 \times 10 = 20$

yes 6. $(5 \times 3) + (6 \times 7) =$ _____
 $15 + (6 \times 7) =$ _____
 $15 + 42 = 57$

yes 7. $4 \times (8 + 3) =$ _____
 $4 \times 11 = 44$

no 8. $5 \times (7 + 3) = (5 \times 7) + (7 \times 3)$