



3rd Grade American Math HW 10

Chapter 7: Multiplication Facts and Strategies

Dear Family,

Over the next few weeks, we will be learning multiplication with factors 2–12. Students will practice multiplication facts, strategies, and multiplication properties.

Please refer to the attached packet for definitions and examples of the multiplication properties we are using in class.

- **Vocabulary**

- **Associative Property of Multiplication:** The property that states that when the grouping of factors is changed, the product remains the same.

- **Distributive Property:** The property that states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

- **Multiple:** A number that is the product of two counting numbers

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- Homework due date: **Sunday, November 23rd**
 - Multiplication Facts Quiz on **Thursday, Nov. 20th**
 - Feel free to contact me with any questions at diana.charaf@archimedean.org
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Complete homework daily based on the schedule provided below:

Monday 11/17

Tuesday 11/18

Wednesday 11/19

Thursday 11/20

Friday 11/21

Lesson **6W7** on IXL

Lesson **HXY** on IXL

Lesson **7VP** on IXL

Lesson **9DF** on IXL

No HW



Be Thankful Together



Multiplication Properties

1- Commutative Property of Multiplication:

The commutative property of multiplication says that you can multiply numbers in any order without changing the answer.

$$a \times b = b \times a.$$

$$3 \times 4 = 4 \times 3$$

The commutative property of multiplication can save you time when you learn your multiplication facts. Every time you learn one fact, you've really learned two facts!

2- Identity Property of Multiplication:

The identity property of multiplication says that any number times **1** is equal to that number. Because of this, **1** is called the **multiplicative identity**.

$$8 \times 1 = 8$$

$$27 \times 1 = 27$$

$$\text{So, } a \times 1 = a.$$

3- Associative Property of Multiplication:

The associative property of multiplication says that you can group factors in different ways without changing the product. It is also called the Grouping Property of Multiplication.

Let's try $2 \times 4 \times 3$ as an example.

You can group 2×4 together and complete that multiplication first.

$$(2 \times 4) \times 3$$

$$= 8 \times 3$$

$$= 24$$

Or you can group 4×3 together and complete that multiplication first.

$$2 \times (4 \times 3)$$

$$= 2 \times 12$$

$$= 24$$

The factors are grouped differently, but the product is the same.

$$\text{So, } (2 \times 4) \times 3 = 2 \times (4 \times 3)$$

- You can use the associative property to make problems easier.

Let's look at an example:

$$3 \times 5 \times 8$$

Look for a way to make a multiple of 10. You can multiply 5×8 to get 40.

So, group those factors. Then multiply to solve.

$$3 \times (5 \times 8)$$

$$= 3 \times 40$$

$$= 120$$

4- Distributive Property:

The Distributive Property states that multiplying a sum by a number is the same as multiplying each addend by the number and then adding the products.

$$\begin{aligned} & 6 \times 7 \\ &= 6 \times (5 + 2) \end{aligned}$$

Think: $7 = 5 + 2$ (Multiply each addend by 6)

$$= (6 \times 5) + (6 \times 2)$$

$$= 30 + 12$$

$$= 42$$

$$8 \times 9$$

Think: $8 = 4 + 4$ (Multiply each addend by 9)

$$= (4 + 4) \times 9$$

$$= (4 \times 9) + (4 \times 9)$$

$$= 36 + 36$$

$$= 72$$

You can use the distributive property to help multiply large numbers. Let's try it with 6×57 .

First, split 57 up into smaller pieces.

$$6 \times 57$$

$$= 6 \times (50 + 7) \quad \text{Then, use the distributive property to solve!}$$

$$= (6 \times 50) + (6 \times 7) = 300 + 42 = 342$$
