

Grade 3 - Properties of Multiplication - Worksheet

Common Core 3.OA.B.5 · maths-pdf.fr/en/

Name: _____ Class: _____ Date: ____/____/____

This **properties multiplication worksheet** for 3rd Grade covers properties of multiplication (Common Core 3.OA.B.5), with a free PDF to print.

These 20 problems practice the commutative, associative, and distributive properties of multiplication (Common Core 3.OA.B.5). Students turn arrays, regroup three factors, and split a factor to find products. Easier problems come first, and the last six are word problems about trays, seats, and cartons.

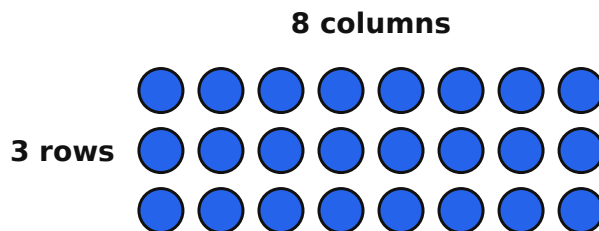
Grade 3 · Common Core State Standards: **3.OA.B.5**

Properties multiplication worksheet: exercises 1 to 10

Exercise 1 - Turn-around fact

Find the number n : $7 \times 5 = 5 \times n$.

Exercise 2 - Turn the array



An array of dots.

Write two multiplication sentences for this array. Then give the product.

Exercise 3 - True or false

Is $9 \times 2 = 2 \times 9$ true or false? Explain.

Exercise 4 - Use a known fact

Maya knows that $6 \times 9 = 54$. Find 9×6 .

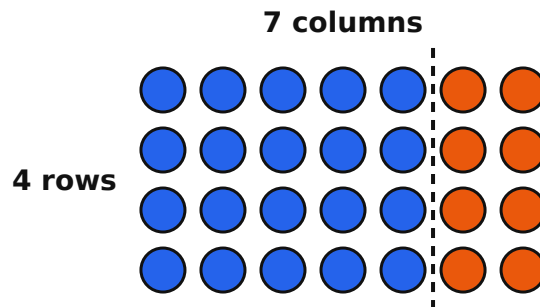
Exercise 5 - Move the parentheses

Find the number n : $(2 \times 3) \times 5 = 2 \times (n \times 5)$.

Exercise 6 - Group first

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

Exercise 7 - Split the array



The blue part has 5 columns. The orange part has 2 columns.

Write a number sentence for the blue and orange parts. Then find 4×7 .

Exercise 8 - Break apart a factor

Find the number n and the product: $6 \times 7 = 6 \times 5 + 6 \times n$.

Exercise 9 - Split a factor

Break the 6 into $4 + 2$ to find 8×6 .

Exercise 10 - Multiply by a sum

Find $7 \times (4 + 3)$ in two ways: add first, and multiply each part first.

Exercises 11 and up

Exercise 11 - Double a fact

7×4	7×4
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Two equal parts.

Jamal knows $7 \times 4 = 28$. Use it to find 7×8 .

Exercise 12 - Easier order

Find $5 \times 7 \times 2$ by multiplying the two numbers that make 10 first.

Exercise 13 - Two ways

Find $2 \times 4 \times 5$ by grouping the factors in two different ways.

Exercise 14 - Pick the true sentence

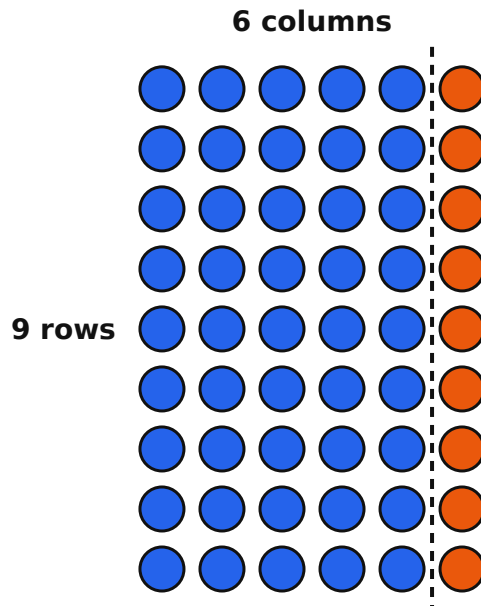
Which sentence is equal to 8×7 ?

- A. $8 \times 5 + 8 \times 2$
- B. $8 \times 5 + 7 \times 2$
- C. $8 \times 5 + 2$

Exercise 15 - Muffin boxes

Priya packs muffins for the school store. Each tray holds 4 muffins. A box holds 3 trays. She fills 2 boxes. How many muffins is that?

Exercise 16 - Theater seats



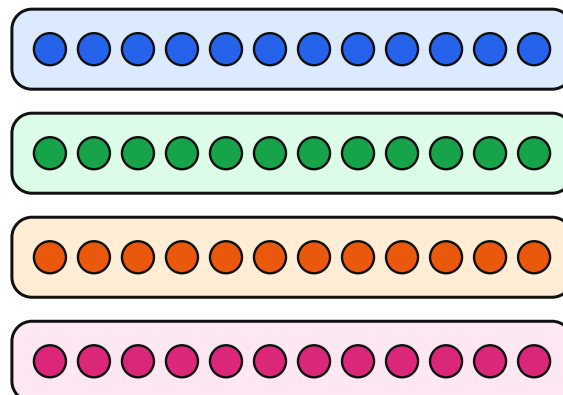
9 rows of 6 seats.

A theater has 9 rows with 6 seats in each row. Ethan splits each row into 5 seats and 1 seat. How many seats are in the theater?

Exercise 17 - Markers and crayons

Liam buys 4 packs with 6 markers in each pack. He also buys 4 packs with 3 crayons in each pack. Find the total number of items two ways.

Exercise 18 - Cookie trays



Four trays. Each tray holds 3 rows of 4 cookies = 12.

At the bake sale, Mei bakes 4 trays. Each tray has 3 rows of 4 cookies. How many cookies does she bake?

Exercise 19 - Orange bags

Sofia packs 7 bags with 6 oranges in each bag. She knows $6 \times 5 = 30$ and $6 \times 2 = 12$. Find the total number of oranges. Name the two properties she can use.

Exercise 20 - Egg cartons

A farm stand sells egg cartons. Each carton has 2 rows of 6 eggs. Diego sells 5 cartons. How many eggs does he sell?

Key facts behind this properties multiplication worksheet

Key facts

- Commutative: $3 \times 6 = 6 \times 3$. The order of two factors does not change the product.
- Associative: $(2 \times 3) \times 4 = 2 \times (3 \times 4)$. Regrouping three factors does not change the product.
- Distributive: $6 \times 7 = 6 \times 5 + 6 \times 2$. Split a factor, multiply the parts, then add.
- An array turned on its side shows the commutative property.
- Known facts help you find unknown facts, such as 5s and 2s for 7s and 8s.

How to use this properties multiplication worksheet

Work through the exercises in order: they go from simple to challenging. Write every step on paper, then compare with the solutions page and redo any exercise you missed the next day.

Download the properties multiplication worksheet as a PDF with the button below and keep it with your notes.