

Properties of Multiplication

Properties of Multiplication

Multiplication means repeated addition

Example: 2×3 means $2 + 2 + 2 = 6$

There are some special rules or properties that make multiplication easier to understand.

Important Properties of Multiplication

Property 1: Multiplying by 1

Any number multiplied by 1 stays the same

Example: $4 \times 1 = 4$

Property 2: Multiplying by 0

Any number multiplied by 0 is always 0

Example: $6 \times 0 = 0$

Property 3: Order does not matter (Commutative Property)

We can change the order of numbers, the answer stays the same

Example: $2 \times 3 = 6$ and $3 \times 2 = 6$

Property 4: Grouping (Associative Property)

We can group numbers and still get the same answer

Example: $(2 \times 3) \times 4 = 2 \times (3 \times 4)$

Examples with Solutions

i. **What is 5×1 ?**

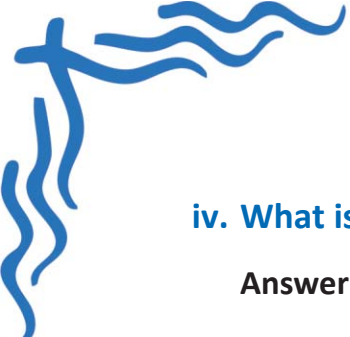
Answer: 5 (Because any number $\times 1$ stays the same)

ii. **What is 7×0 ?**

Answer: 0 (Because any number $\times 0$ is 0)

iii. **What is 3×4 and 4×3 ? Are they the same?**

Answer: Yes, both are 12 (Order does not matter)



iv. What is $(2 \times 3) \times 2$ and $2 \times (3 \times 2)$?

Answer: Both are 12 (Grouping doesn't change the result)

v. What happens when we multiply 1×9 ?

Answer: We get 9 (Multiplying by 1 gives the same number)

Summary Points

- Multiplying by 1 gives the same number
- Multiplying by 0 gives zero
- Changing order of numbers does not change the answer
- Grouping numbers in any way gives the same result
- These rules help us to multiply faster and smarter