# Multiplication of 4-digit number by a 1-digit number

#### Multiplication of 4-digit number by a 1-digit number

This means multiplying a number having four digits like 1234 by a single-digit number like 5. We use column method or long multiplication to solve such problems step by step.

## **Steps to Multiply**

**Step 1:** Write the 4-digit number and the 1-digit number properly

Step 2: Start multiplying from the ones place of the 4-digit number

Step 3: If the result is more than 9, carry over the extra digit to the next place

**Step 4:** Continue this till the thousands place

Step 5: Add any carry if needed to get the final product

## **Properties Used**

**Commutative Property:** a × b = b × a

**Distributive Property:**  $a \times (b + c) = a \times b + a \times c$ 

**Zero Property:** a × 0 = 0

**Identity Property:** a × 1 = a

Example 1:

Question: Multiply 1,234 by 6

Solution:

 $6 \times 4 = 24 \rightarrow$  write 4, carry 2  $6 \times 3 = 18 + 2 = 20 \rightarrow$  write 0, carry 2  $6 \times 2 = 12 + 2 = 14 \rightarrow$  write 4, carry 1

6 × 1 = 6 + 1 = 7

Final answer = 7,404

**Answer:** 1234 × 6 = 7404

#### Example 2:

**Question:** Multiply  $\frac{3}{4}$  by 5

Solution:

 $\frac{3}{4} \times 5 = \frac{3 \times 5}{4} = \frac{15}{4} = 3\frac{3}{4}$ **Answer:**  $\frac{3}{4} \times 5 = 3\frac{3}{4}$ 

#### **Summary Points**

- To multiply a 4-digit number by a 1-digit number, multiply each digit one by one starting from the right
- Carry over extra digits when needed
- Use multiplication properties like commutative and distributive rules
- Multiplying fractions with whole numbers means multiplying the numerator by the number
- Practice helps improve speed and accuracy in long multiplication