



## Multiplication of fractions

### Multiplying Fractions with Whole Number:

Multiplying fractions with whole numbers is the same as repeated addition, where we add the fraction the same number of times as the whole number.

### Let us understand with an example:

**Example:** Multiply  $\frac{4}{8}$  by 16.

**Solution:** Write the whole number as the numerator and 1 as the denominator.

$$\frac{4}{8} \times \frac{16}{1}$$

Simplify the numerator with denominator. Denominator 8 can divide numerator 16.

$$= \frac{4}{1} \times \frac{2}{1}$$

Multiply the numerators.  $4 \times 2 = 8$

Multiply the denominators.  $1 \times 1 = 1$

So, the answer will be 8.

### Multiplying Fractional Number by Fractional Number:

For Multiplying one Fractional Number with other Fractional Number, we have to multiply the numerator of first number with the numerator of second number and denominator of first number with the denominator of second number and then change the resultant fraction in its simplest form.

### Let us understand with some examples:

**Example:** Multiply  $\frac{1}{3}$  by  $\frac{4}{7}$

$$\begin{aligned}\text{Solution: } & \frac{1}{3} \times \frac{4}{7} \\ &= \frac{1 \times 4}{3 \times 7} \\ &= \frac{4}{21}\end{aligned}$$

**Example:** Multiply  $\frac{3}{4}$  by  $\frac{2}{5}$

$$\begin{aligned}\text{Solution: } & \frac{3}{4} \times \frac{2}{5} \\ &= \frac{3 \times 2}{4 \times 5} \\ &= \frac{6}{20}\end{aligned}$$