

## Additive & Multiplicative Inverse

### 1. Additive Inverse -

$$a + (-a) = (-a) + a = 0$$

for any rational numbers  $a$ , there exists

a rational number  $(-a)$ .

Ex-  $\frac{7}{8} + \left(-\frac{7}{8}\right) = \frac{7-7}{8} = 0 = \frac{-7}{8} + \frac{7}{8}$

### 2. Multiplicative Inverse -

$$a \times b = b \times a = 1$$

for any non-zero rational numbers  $a$ , there exists another non-zero rational number  $b$ . ~~such~~

Ex-  $\frac{3}{5} \times \frac{5}{3} = \frac{5}{3} \times \frac{3}{5} = 1$

Note: 0 (zero has no reciprocal)

## Distributivity of Multiplication

Over Addition and subtraction

for any three rational no's  $a, b$  &  $c$ ,

$$i) \quad a(b+c) = ab+ac$$

$$ii) \quad a(b-c) = ab-ac$$