

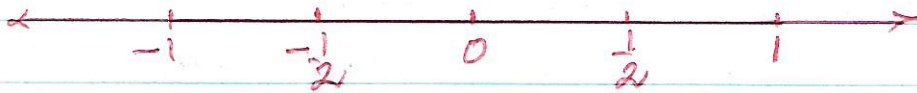
Things to Remember

Chapter - 1 Rational Number

- 1) Whole numbers are closed under addition and multiplication.
 - 2) Integers are closed under addition and multiplication.
 - 3) Integers are closed under subtraction.
 - 4) Rational numbers are closed under addition and multiplication.
 - 5) Commutativity Property : $a+b = b+a$
 - 6) Addition and multiplication are commutative.
 - 7) Associativity Property : $a \times (b \times c) = (a \times b) \times c$
 - 8) Addition and multiplication are associative.
 - 9) The role of zero (0) : $a+0 = 0+a = a$
 - 10) The role of 1 : $a \times 1 = 1 \times a = a$
 - 11) Negative of a number : $a + (-a) = (-a) + a = 0$,
So, a is the negative or additive inverse of $-a$
and vice-versa ($-a$ is negative or additive inverse of a).
 - 12) Reciprocal : We say that a rational number $\frac{c}{d}$ is called the reciprocal or multiplicative inverse of another rational number $\frac{a}{b}$ if $\frac{a}{b} \times \frac{c}{d} = 1$.
- Zero has no reciprocal.

13) Distributive Property : $a \times (b+c) = ab + ac$
 $a \times (b-c) = ab - ac$

14) Representation of rational numbers on the number line



15) Rational numbers between two rational numbers:

We get countless rational numbers between any two given rational numbers.

Method - 1: Convert rational numbers with same denominator.

Method - 2: We find the mean of the given rational numbers.
If a and b are two rational numbers, then $\frac{a+b}{2}$ is a rational number between a and b , such that $a < \frac{a+b}{2} < b$.