

LINEAR EQUATION IN ONE VARIABLE

An equation is a statement in which two algebraic expressions are equal.
Ex: $4x - 3 = 5$ here x is variable and 3,5 are constants

An equation which occurs with one variable of first degree is called a linear equation in one variable. Ex $x + 5 = 0$

An equation which occurs with two variables of first degree is called a linear equation in two variable. Ex $xy + 1 = 0$

- x A linear equation has only one solution, which is called its root .
- x An equation remains unaltered on:
 - 1) Adding the same number to both sides of it.
 - 2) Subtracting the same number from both sides of it.
 - 3) Multiplying both sides of it by the same number.
 - 4) Dividing both sides of it by the same number.

SOLVING A LINEAR EQUATION

- (i) • Simplifying all brackets, fractions, etc., if required
- (ii) • Bring all the terms containing the variables on one side and all the constant terms on the other side.
- (iii) • Solve the equation, obtained in step(2) , to get the value of its variable.

TO SOLVE PROBLMES BASED ON LINEAR EQUATION

- ❖ Read the problem carefully and find out the given and the unknown.
- ❖ Assume the variable (unknown) as x .
- ❖ According to the problem, set up two equations in terms of x and the known values
- ❖ Solve the equation to obtain the value of unknown.

NOTE

- Consecutive integers, natural numbers and the whole numbers are taken as $x, x+1, x+2, \dots$

LINEAR EQUATION IN ONE VARIABLE

- ❖ Consecutive even integers, natural numbers and the whole numbers differ by 2 and so are taken as $x, x+2, x+4, \dots$
- Consecutive odd integers, natural numbers and the whole numbers also differ by 2 and so are taken as $x, x+2, x+4, \dots$
- Consecutive multiples of 3 in integers, natural numbers and the whole numbers also differ by 3 and so are taken as $x, x+3, x+6, \dots$
- $\text{Speed} = \text{Distance Travelled} / \text{Time Taken}$
- $\text{Dividend} = (\text{Quotient} \times \text{Divisor}) + \text{Remainder}$