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**Solving an equation**

Solving an equation implies that a value of the variable will be found such that LHS =RHS. Such a value of the variable is called solution of the equation.

In order to solve an equation, it is important to remember these points:

* If we add the same number to both sides of a balance equation, the balance is undisturbed.
* If we subtract the same number from both sides of a balance equation, the balance is undisturbed.
* If we multiply or divide both sides of the equation by the same number, the balance is undisturbed.

Thus if we fail to do the same mathematical operation on both sides of a balanced equation, the balance is disturbed.

These conclusions are also valid for equations with variables as, in each

Equation variable represents a number only.

Other than these following tips have to be kept in mind:

* Whenever we move a number from LHS to RHS or vice-versa the sign of that number will change. For e.g. if we transpose -5 from LHS to RHS or vice versa it will become +5.
* Similarly if we transpose +5 from LHS to RHS or vice versa it will become -5.
* If we transpose \*5 to the other side, it will become /5.
* If we transpose /5 to other side, it will become \*5.

Problem: Solve the following equations:

* *x*– 1 = 0

Firstly, we will move to the other side. When we will do this, -1 will become +1. We get:

x-1=0

x=1

So, the solution to this equation is x =1.

* *y*+ 4 = – 4

Firstly, we will move -4 to the other side. When we do this, it will become -4. W get:

y+4 = -4

y =-4 -4

y= -(4+4)

y= -8

So, the solution to this equation is y = -8.

* 3*s*+ 12 = 0

Firstly, we will move +12 to the other side. When we do this, it will become -12. We get:

3s +12 =0

3s = -12

Now, when we will take \*3 to the other side, it will become /3.

s = -12/3

s = -4

So the solution to this equation is -4.

Problem: Solve the following equations:

* 2(*x*+ 4) = 12

Firstly, we will move \*2 to the other side. When we do this, it will become /2. W get:

2(x+4) = 12

x+4 = 12/2

x+4= 6

Now, we will move +4 to the other side. When we do this, it will become -4.

x =6 - 4

x= 2

So, the solution to this equation is x = 2.

* 34 – 5(*p*– 1) = 4

Firstly, we will transpose +34. When we do this it will become -34. We get:

34-5(p-1) =4

-5(p-1) =4-34

-5(p-1) = -30

Now, when we transpose \*(-5) it will become /(-5).

(p-1) =-30/-5

p-1 =6

Now when we transpose -1 it will become +1.

p= 6+1

p=7

So, the solution to this equation is p=7.