

CHAPTER – 4
SIMPLE EQUATIONS

- An equation is a condition on a variable such that two expressions in the variable should have equal value.
- The value of the variable for which the equation is satisfied is called the solution of the equation.
- An equation remains the same if the LHS and the RHS are interchanged.
- In case of the balanced equation, if we
 - (i) add the same number to both the sides, or
 - (ii) subtract the same number from both the sides, or
 - (iii) multiply both sides by the same number, or
 - (iv) divide both sides by the same number, the balance remains undisturbed, i.e., the value of the LHS remains equal to the value of the RHS
- The above property gives a systematic method of solving an equation. We carry out a series of identical mathematical operations on the two sides of the equation in such a way that on one of the sides we get just the variable. The last step is the solution of the equation.
- Transposing means moving to the other side. Transposition of a number has the same effect as adding same number to (or subtracting the same number from) both sides of the equation. When you transpose a number from one side of the equation to the other side, you change its sign. For example, transposing +3 from the LHS to the RHS in equation $x + 3 = 8$ gives $x = 8 - 3$ ($= 5$). We can carry out the transposition of an expression in the same way as the transposition of a number.
- We have learnt how to construct simple algebraic expressions corresponding to practical situations.
- We also learnt how, using the technique of doing the same mathematical operation (for example adding the same number) on both sides, we could build an equation starting from its solution. Further, we also learnt that we could relate a given equation to some appropriate practical situation and build a practical word problem/puzzle from the equation.