Simple Equations

What Equation Is?

An **equation** is a condition on a **variable** such that two **expressions** in the variable should have equal value.

SIMPLE EQUATIONS: An equation is a condition on a variable such that two expressions in the variable should have equal value.

Solution of the equation: 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

➢   add the same number to both the sides, or

➢   subtract the same number from both the sides, or

➢   multiply both sides by the same number, or

➢   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.

➢   An equation remains the same if the **Left-hand side (LHS)** and the **right-hand side (RHS)** are interchanged.

• Equation   > Solution (normal path)

• Solution   > Equation (reverse path)

Question 1:

• Complete the last column of the table.

S. No.	Equation	Value	Say, whether the equation is satisfied. (Yes/No)
(i)	$x + 3 = 0$	$x = 3$	By putting $x = 3$, L.H.S. = 3 + 3 = 6 ≠ R.H.S. ∴ No, the equation is not satisfied.
(ii)	$x + 3 = 0$	$x = 0$	Do your self
(iii)	$x + 3 = 0$	$x = -3$	Do your self
(iv)	$x - 7 = 1$	$x = 7$	Do your self
(v)	$x - 7 = 1$	$x = 8$	By putting x = 8, L.H.S. = 8 − 7 = 1 = R.H.S. ∴ Yes, the equation is satisfied.

(vi)	$5x = 25$	$x = 0$	Do your self
(vii)	$5x = 25$	$x = 5$	Do your self
(viii)	$5x = 25$	$x = -5$	Do your self
(ix)	$\dfrac{m}{3} = 2$	$m = -6$	Do your self
(x)	$\dfrac{m}{3} = 2$	$m = 0$	Do your self
(xi)	$\dfrac{m}{3} = 2$	$m = 6$	Do your self