## **Equation and Solution of the Equation**

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An equation is a mathematical statement that shows that two mathematical expressions are equal. For instance, 3x + 5 = 14 is an equation, in which 3x + 5 and 14 are two expressions separated by an 'equal' sign.

## **Example of an Equation:**

4y + 2 = 18 $4 \times 2 + 3x - 28 = 0$ 

## **Solution of an Equation**

The value of the variable which makes the equation a true statement is the solution of the equation.

## Let us understand with an example:

**Example:** Verify that x = 3 is the solution of an equation 4x - 8 = -5 + 3x

**Solution:** Substitute x = 3 in the given equation

LHS: 4x - 8 = 4(3) - 8 = 12 - 8 = 4

RHS: -5 + 3x = -5 + 3(3) = -5 + 9 = 4

LHS = RHS

So, x = 3 is the solution of an equation 4x - 8 = -5 + 3x.