THE MEANING OF EQUATIONS
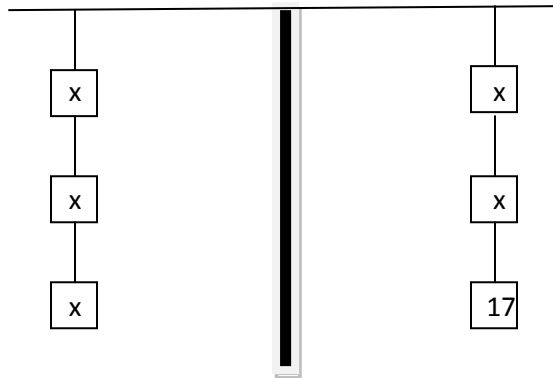

The equation which represents the above balance is:

$$3x = 2x + 17$$

How to solve the equation?

1st step	$3x = 2x + 17$	write the equation
2nd step	$3x - 2x = 2x - 2x + 17$	subtract 2x from both sides of the equation
3rd step	$x = 17$	simplify (this is the solution of the equation)
4th step	$3(17) = 2(17) + 17$	check if the solution is correct (both sides are still equal). Therefore, the solution is correct.

Another example: (Give reasons for each step as above)

1st step	$2x - 5 = 16 - 5x$	the equation
2nd step	$2x - 5 + 5 = 16 - 5x + 5$	………………………………………………………………
3rd step	$2x = 21 - 5x$	………………………………………………………………
4th step	$2x + 5x = 21 - 5x + 5x$	………………………………………………………………
5th step	$7x = 21$	………………………………………………………………
6th step	$\frac{7x}{7} = \frac{21}{7}$	………………………………………………………………..
7th step	$x = 3$	………………………………………………………………..
8th step	$2(3) - 5 = 16 - 5(3)$	so, the answer must be correct as both sides still balance.