Tutorial Set 14 – Solving Equations with One Unknown

I will give just one example. You can fine many more examples on Youtube with the about topic if you need more examples.

Example: Find x in the equation $2x + 5 = 29$.

The key is that what is done to one side of the equation must be done to the other side of the equation. We will first move 5 to the right side of the equation. This is done by subtracting 5 from each side of the equation as follows:

$2x + 5 – 5 = 29 – 5$ to get

$2x = 24$.

Now divide each side of the equation by the coefficient of x to just leave x on the left had side of the equation to give

$2x/2 = 24/2$ or

$x = 12$ which is the answer.

Note that if we had an equation such as $x/a = y$, we cha multiply each side of the equation by a to get $a(x/a) = ay$ or simple $x = ay$.

Note that this is the same still as dividing by the coefficient of x in that the coefficient of x is $(1/a)$ in that $(x/a)/(1/a) = (a/1)(x/a) = x$.

We will later cover the top of dividing fractions but for now, we will keep it simple.

Solve the following problems for x:

1. $3x – 2 = 10$
2. $8x + 6 = 30$
3. $5x – 5 = 45$
4. $x/2 = 12$
5. $x/2 + 4 + 10$