Example

Given the following system, solve it by substitution.

$$2x-3y=4$$
$$4x+5y=-3$$

When you solve by substitution, you need to solve for one variable in terms of the other in one of the equations

$2x-3y=4 \Rightarrow 2x=4+3y$. Multiply by $\frac{1}{2}$

$$\frac{1}{2}(2x)=\frac{1}{2}(4+3y)$$

$$x=2+\frac{3}{2}y^{*}$$

Now we replace the expression for x to be in the second equation

$4\left(2+\frac{3}{2}y\right)+5y=-3$ and solve for y.

$$8+\frac{12}{2}y+5y=-3$$
$$6y+5y=-11$$
$$11y=-11$$
$$y=-1.$$

If $x=2+\frac{3}{2}y^{*}$ and $y=-1$, then $x=2+\frac{3}{2}(-1)$

$$x=2-\frac{3}{2}=\frac{1}{2}$$

Therefore the point of intersection is $\left(\frac{1}{2},-1\right)$.
The system here is consistent
There is a third way to find the solution of a system of 2 equations in 2 unknowns and that is called the comparison method