Example

Solve the system if possible.

$$-3x+2y=-2$$
$$6x-4y=1$$

Let's do it by comparison. We're going to solve for y in both equations

Equation ① $2y=-2+3x \Rightarrow y=\frac{1}{2}(-2+3x)$

$$y=-1+\frac{3}{2}x.$$
$$y=\frac{3}{2}x-1.$$

Equation ② $-4y=1-6x \Rightarrow y=-\frac{1}{4}(1-6x)$

$$y=-\frac{1}{4}+\frac{6}{4}x$$
$$y=-\frac{1}{4}+\frac{3}{2}x$$

Now, we make the 2 y's equal to each other

$$\frac{3}{2}x-1=-\frac{1}{4}+\frac{3}{2}x$$

$$0x=-\frac{1}{4}+1$$

$0\neq-\frac{1}{4}+1$ Contradiction

Therefore, the 2 lines are parallel. (No intersection point.)
In this case, the system is called INCONSISTENT
Sometimes you could have 3 equations in 2 unknowns.
Let's see how we can solve them.