Step-1

Given system is $2x-4y=6$

$-x\ +5y=0$

Given system can be written as

$$\begin{pmatrix} 2 & -4 & 6 \\ -1 & 5 & 0 \end{pmatrix}$$

Subtract â€˜ $\frac{-1}{2}$ â€™ times the first row from the second row to get

$\begin{pmatrix} 2 & -4 & 6 \\ 0 & 3 & 3 \end{pmatrix}$ which is an upper triangular system.

Therefore the multiple is $\boxed{l=\frac{-1}{2}}$.

Step-2

The linear system of above is $2x-4y=6$

$3y=3$

By back-substitution, we have $3y=3$

$\Rightarrow y=1$

And $2x-4(1)=6$

$\Rightarrow x=5$

Hence the solution is $\boxed{(5,1)}$

Step-3

If right hand side changes sign, then the system becomes

$2x-4y=-6$

$-x+5y=0$

The system can be written as $\begin{pmatrix} 2 & -4 & -6 \\ -1 & 5 & 0 \end{pmatrix}$

Subtract â€˜ $\frac{-1}{2}$ â€™ times the first row from the second row to get

$\begin{pmatrix} 2 & -4 & -6 \\ 0 & 3 & -3 \end{pmatrix}$ which is an upper triangular system.

Step-4

By back-substitution, we have $3y = -3$

$\Rightarrow y = -1$

And $2x - 4y = -6$

$\Rightarrow 2x + 4 = -6$

$\Rightarrow x = -5$

Hence the solution is $\boxed{(-5, -1)}$.

Hence if the right-hand side of the system changes sign, so does the solution.