3 **Pair of Linear Equations in two variables**
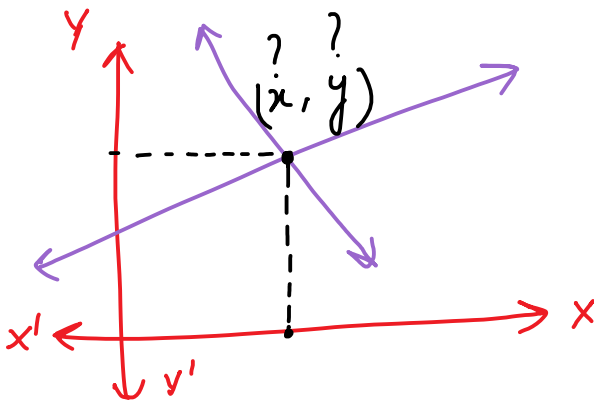
Standard Form :-

$$a_1 x + b_1 y + c_1 = 0$$

$$a_2 x + b_2 y + c_2 = 0$$

Solve:- $x, y = ?$ Solve :- graphically
                                          geometrically

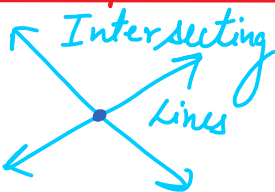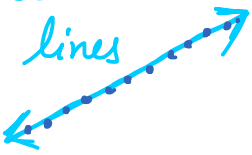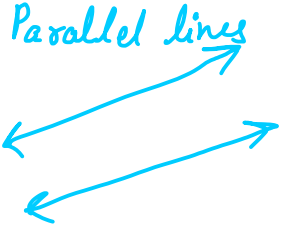1.) Graphical method

2.) $\boxed{\text{Algebrical methods}}$:–

(i) Substitution method

(ii) Elimination method

(iii) Cross – Multiplication

$\boxed{Solve}$

$x = ?$ $y = ?$

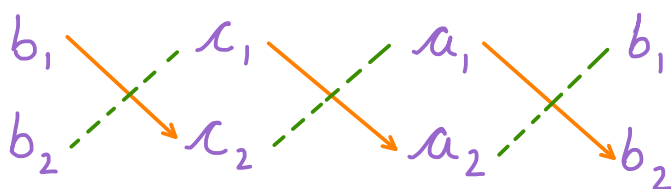| comparing the Ratios	Graph	Solution	
If $\dfrac{a_1}{a_2} \neq \dfrac{b_1}{b_2}$	Intersecting Lines	(unique solution) 1	Consistent
If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} = \dfrac{c_1}{c_2}$	coincident lines	infinitely many solutions	Consistent
If $\dfrac{a_1}{a_2} = \dfrac{b_1}{b_2} \neq \dfrac{c_1}{c_2}$	Parallel lines	no solution	Inconsistent

1.) General Form $\quad$ RHS = 0

$a_1 \quad b_1 \quad c_1 \quad a_2 \quad b_2 \quad c_2 \quad = \; ?$

2.) Rough work

a_1	b_1	c_1
a_2	b_2	c_2

3.) $\boxed{2 \; 3 \; 1 \; 2}$

$b_1 \quad c_1 \quad a_1 \quad b_1$
$b_2 \quad c_2 \quad a_2 \quad b_2$

4.) $\dfrac{x}{\underline{}} \quad = \quad \dfrac{y}{\underline{}} \quad = \quad \dfrac{1}{\underline{}}$