

Exercise 8.3

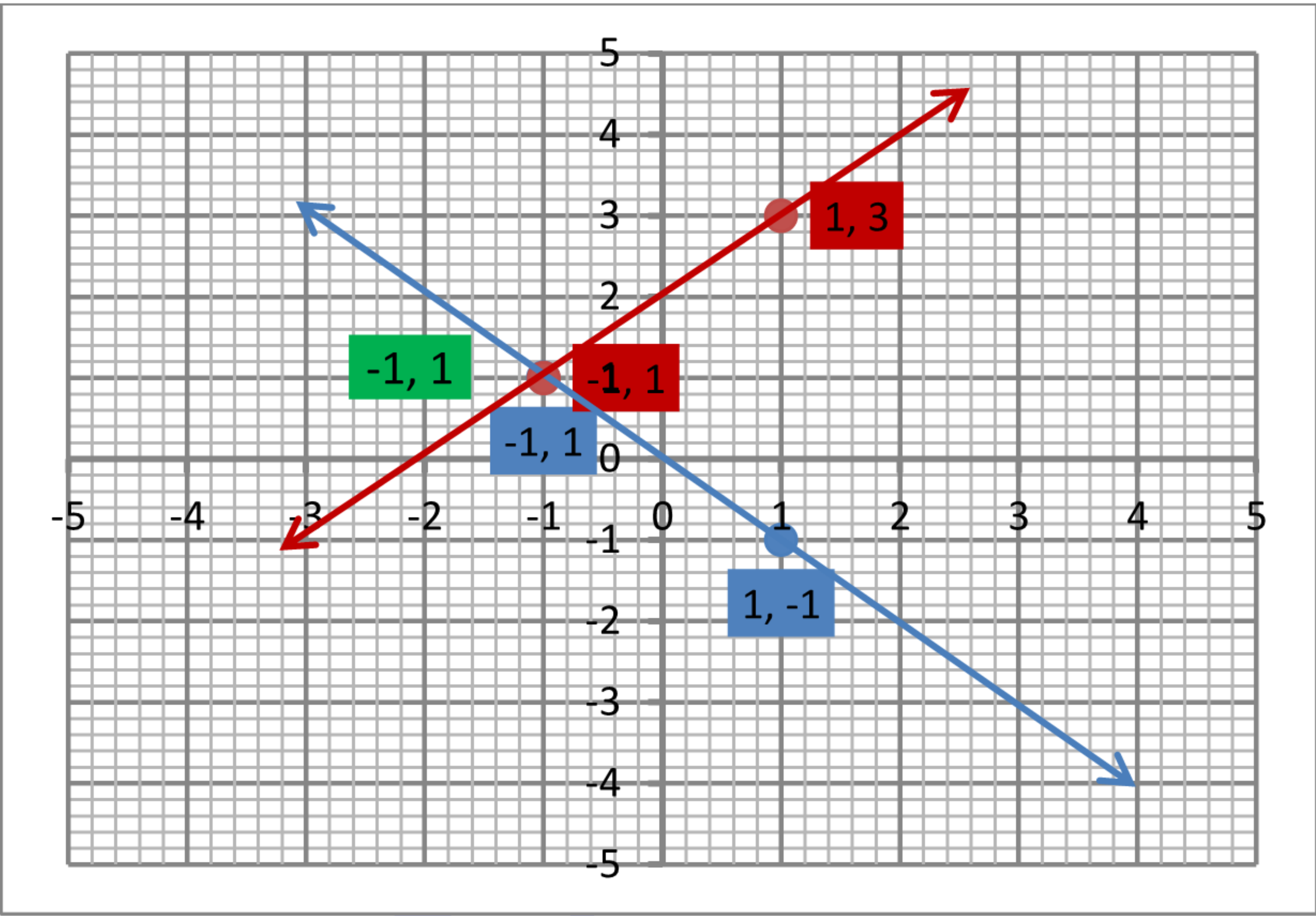
Solve the following pair of equations in x and y graphically.

1.

$x + y = 0$ ----- (i)
 $y = -x$

$2x - y + 3 = 0$ ----- (ii)
 $-y = -2x - 3$
 $y = 2x + 3$

x	y
For Equation (i) $x + y = 0$	
-1	1
1	-1
For Equ. (ii) $2x - y + 3 = 0$	
-1	1
0	3



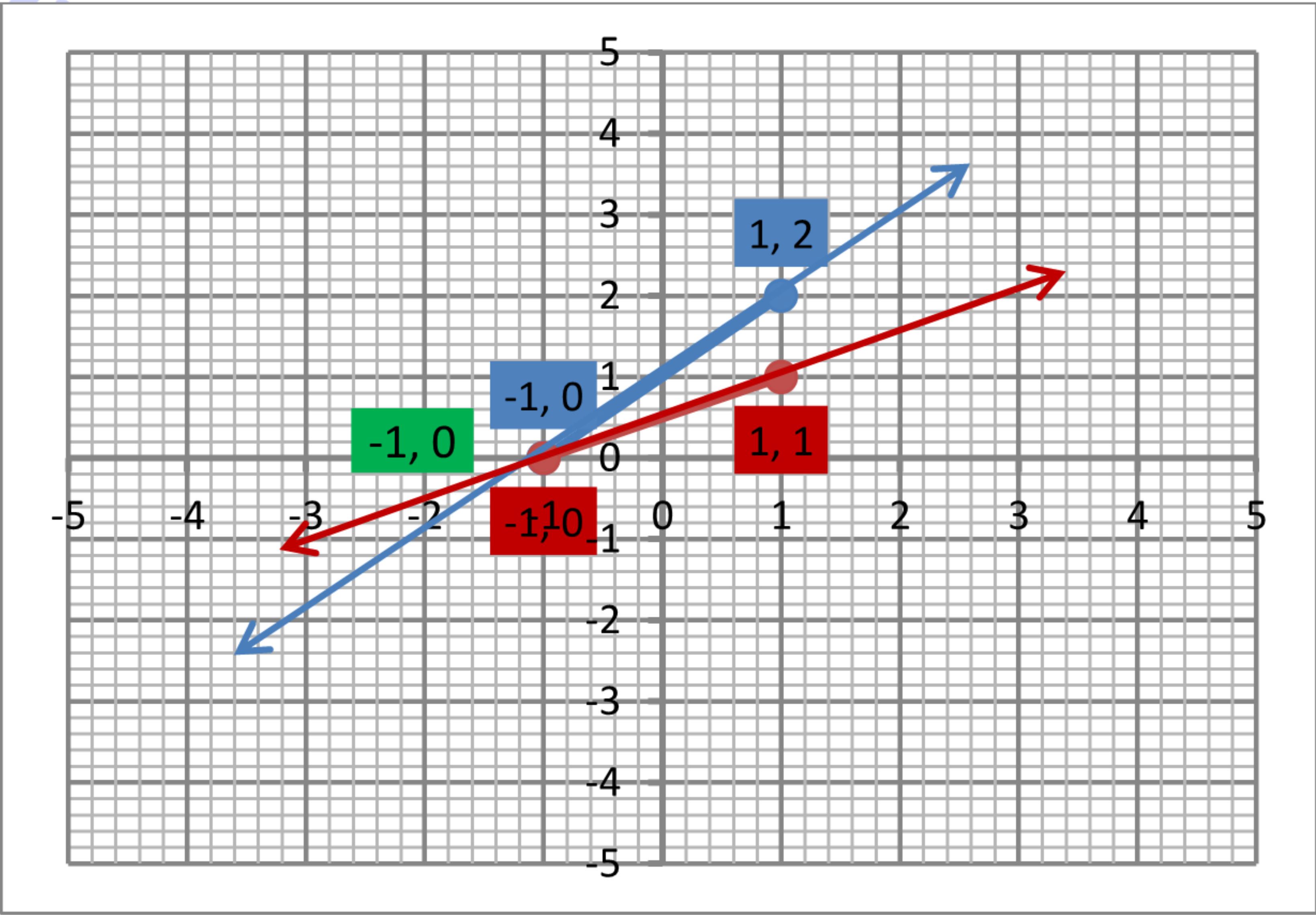
As the lines intersect at (-1, 1). So, Solution is (-1, 1)

2.

$x - y + 1 = 0$ ----- (i)
 $-y = -x - 1$
 $y = x + 1$

$x - 2y = -1$ ----- (ii)
 $-2y = -1 - x$
 $y = \frac{x+1}{2}$

x	y
For Equ. (i) $x - y + 1 = 0$	
-1	0
1	2
For Equ. (ii) $x - 2y = -1$	
-1	$\frac{-1+1}{2} = 0$
1	$\frac{1+1}{2} = 1$



As the lines intersect at (-1, 0). So, Solution is (-1, 0)

3.

$2x + y = 0$ ----- (i)

$y = -2x$

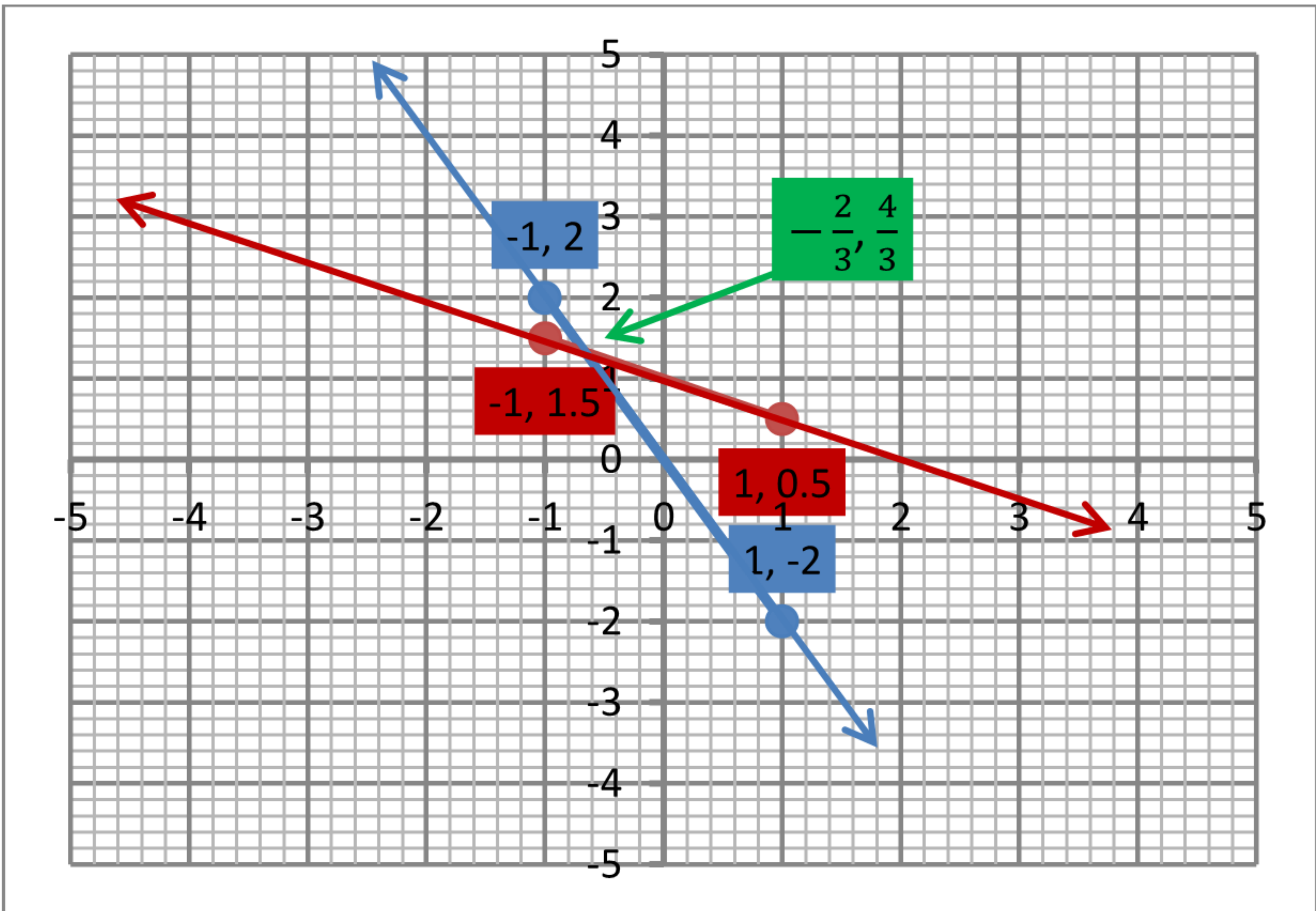
$y = -2x$

$x + 2y = 2$ ----- (ii)

$2y = 2 - x$

$y = \frac{2-x}{2}$

x	y
For Equ. (i) $2x + y = 0$	
-1	2
1	-2
For Equ. (ii) $x + 2y = 2$	
-1	$\frac{2+1}{2} = \frac{3}{2} = 1.5$
1	$\frac{2-1}{2} = \frac{1}{2} = 0.5$



As the lines intersect at $(-\frac{2}{3}, \frac{4}{3})$. So, Solution is $(-\frac{2}{3}, \frac{4}{3})$

4.

$x + y - 1 = 0$ ----- (i)

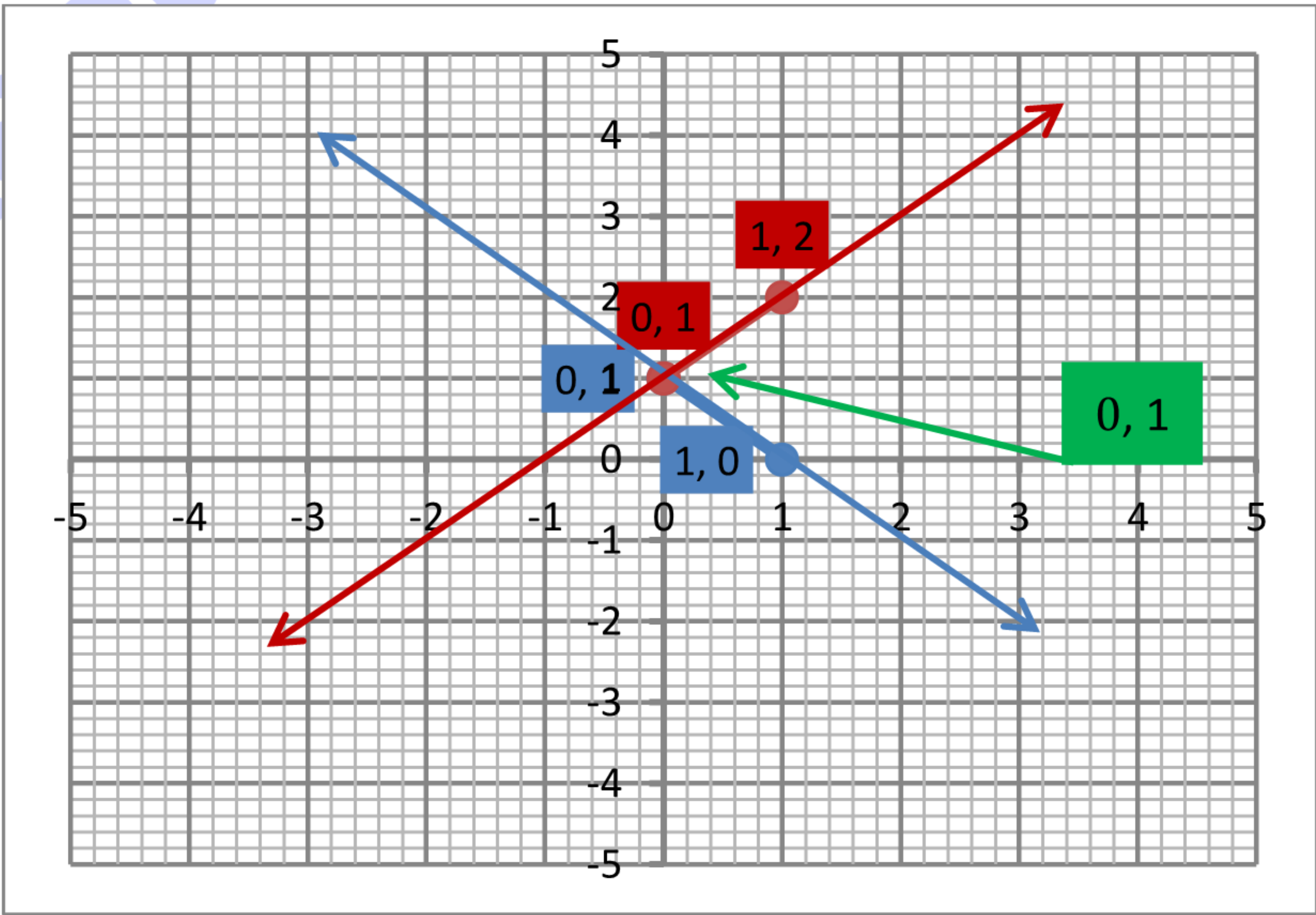
$y = 1 - x$

$x - y + 1 = 0$ ----- (ii)

$-y = -x - 1$

$y = x + 1$

x	y
For Equ. (i) $x + y - 1 = 0$	
0	1
1	0
For Equ. (ii) $x - y + 1 = 0$	
0	1
1	2



As the lines intersect at (0, 1). So, Solution is (0, 1)

5.

$2x + y - 1 = 0$

$y = 1 - 2x$

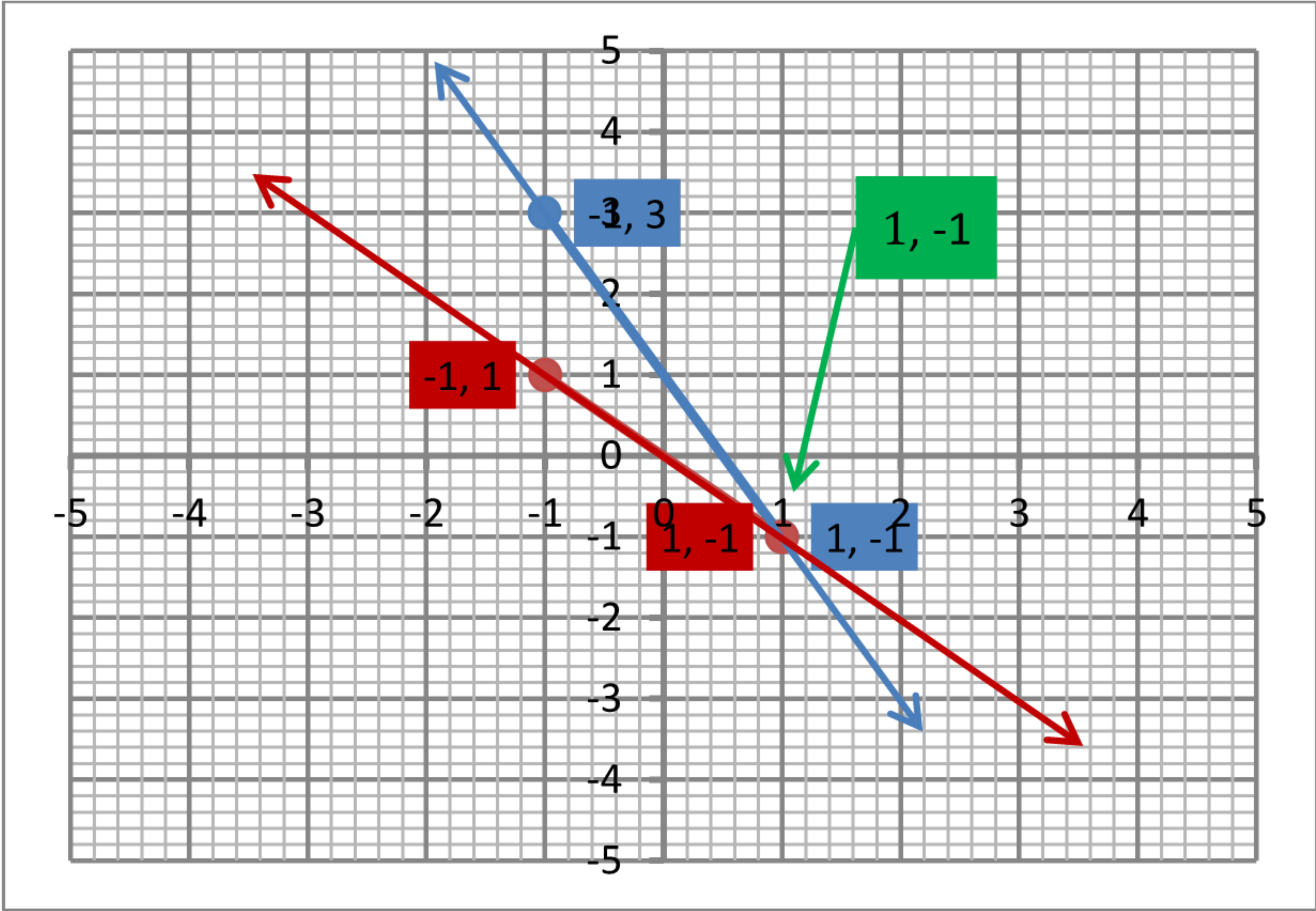
(i)

$x = -y$

$y = -x$

(ii)

x	y
For Equ. (i) $2x + y - 1 = 0$	
-1	3
1	-1
For Equ. (ii) $x - y + 1 = 0$	
-1	1
1	-1



As the lines intersect at (1, -1). So, Solution is (1, -1)