

EXERCISE 15.5

Represent to solution set of the following inequations graphically in two dimensional plane:

1. $x + 2y - 4 \leq 0$

Solution:

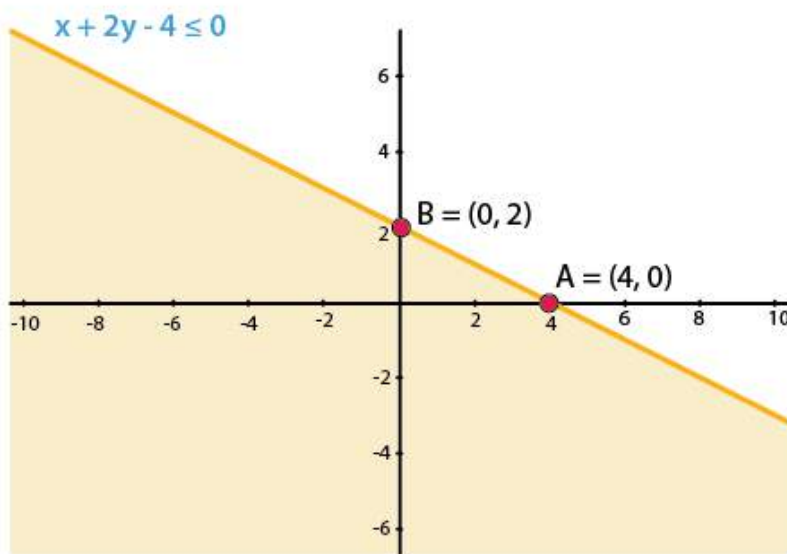
We shall plot the graph of the equation and shade the side containing solutions of the inequality,

You can choose any value but find the two mandatory values which are at $x = 0$ and $y = 0$, i.e., x and y -intercepts always,

$x + 2y - 4 \leq 0$

So when,

x	0	2	4
y	2	1	0



2. $x + 2y \geq 6$

Solution:

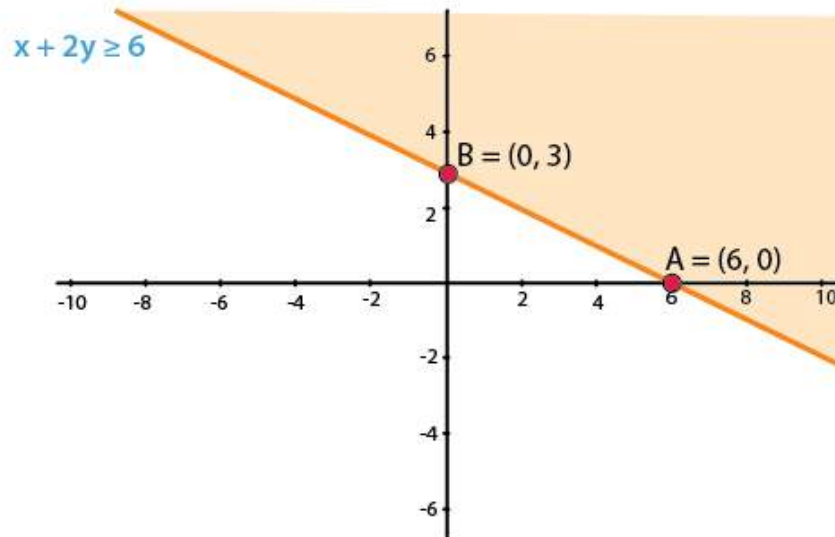
We shall plot the graph of the equation and shade the side containing solutions of the inequality,

You can choose any value but find the two mandatory values which are at $x = 0$ and $y = 0$, i.e., x and y -intercepts always,

$x + 2y \geq 6$

So when,

x	0	2	6
y	3	2	0



3. $x + 2 \geq 0$

Solution:

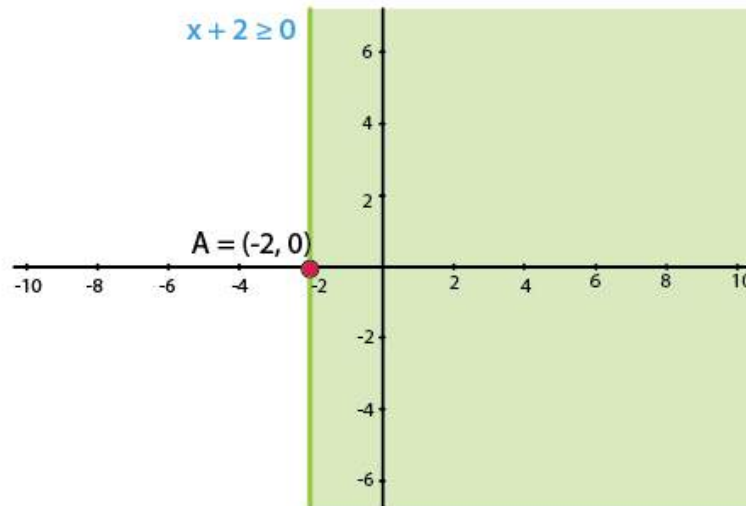
We shall plot the graph of the equation and shade the side containing solutions of the inequality,

You can choose any value but find the two mandatory values which are at $x = 0$ and $y = 0$, i.e., x and y–intercepts always,

$$x + 2 \geq 0$$

$$x \geq -2$$

As there is only one variable ‘x,’ and $y = 0$, which means that x has only one value when considered as an equation.



4. $x - 2y < 0$

Solution:

We shall plot the graph of the equation and shade the side containing solutions of the inequality,

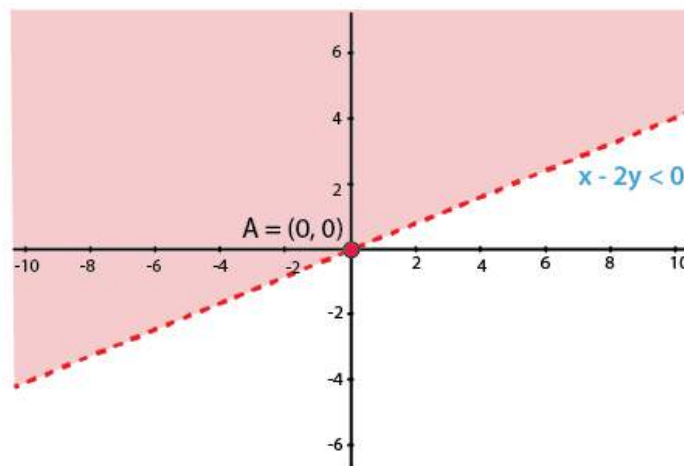
You can choose any value but find the two mandatory values which are at $x = 0$ and $y = 0$, i.e., x and y -intercepts always,

$$x - 2y < 0$$

$$x < 2y$$

So when,

x	0	2	4
y	0	1	2



5. $-3x + 2y \leq 6$

Solution:

We shall plot the graph of the equation and shade the side containing solutions of the inequality,

You can choose any value but find the two mandatory values which are at $x = 0$ and $y = 0$, i.e., x and y -intercepts always,

$-3x + 2y \leq 6$

So when,

x	0	2	-2
y	3	6	0

