Linear Inequations Ex 15.5 Q9

We have,

$y \geq 2x - 8 \ldots\ldots\ldots\ldots\ldots\ldots (i)$

Converting the given inequation into equation, we obtain, $y = 2x - 8$.

Putting $x = 0$, we get $y = -8$

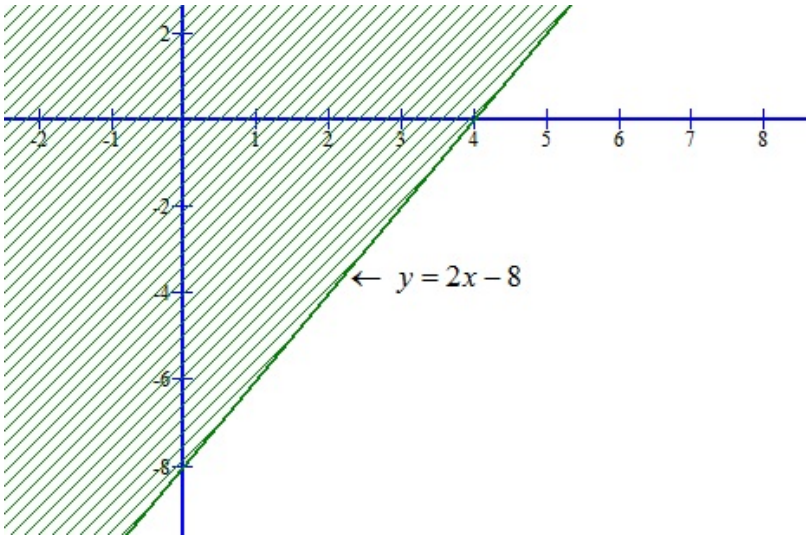
Putting $y = 0$, we get $x = \frac{8}{2} = 4$

So, this line meets x-axis at $(4,0)$ and y-axis at $(0,-8)$.

we plot these points and join them by a line. This line divides the xy-plane in two parts. To determine the region represented by the given inequality consider the point $0(0,0)$.

Putting $x = 0$ and $y = 0$ in the inequation (i), we get $0 \geq -8$

Clearly, $(0,0)$ satisfies the inequality the region containing the origin is represented by the given inequation as show below:



Linear Inequations Ex 15.5 Q10

We have,

$3x - 2y \leq x + y - 8$

$\Rightarrow \quad 3x - x \leq y + 2y - 8$

$\Rightarrow \quad 2x \leq 3y - 8 \ldots\ldots\ldots\ldots\ldots (i)$

Converting the given inequation into equation, we obtain, $2x = 3y - 8$.

Putting $y = 0$, we get $x = \frac{-8}{2} = -4$

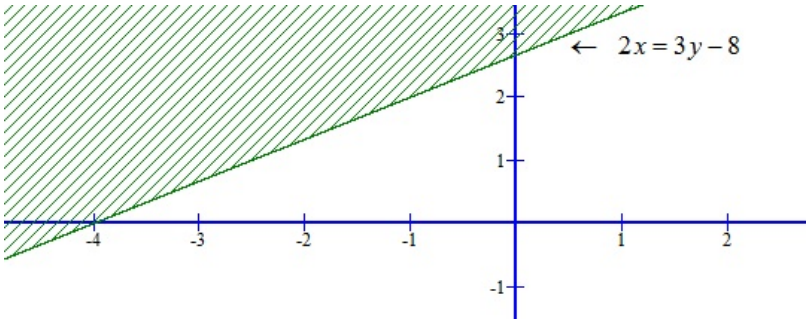
Putting $x = 0$, we get $y = \frac{8}{3}$.

So, this line meets x-axis at $(-4,0)$ and y-axis at $\left(0, \frac{8}{3}\right)$.

we plot these points and join them by a line. This line divides the xy-plane in two parts. To determine the region represented by the given inequality consider the point $0(0,0)$.

Putting $x = 0$ and $y = 0$ in the inequation (i), we get $0 \leq -8$ It is not possible.

$\therefore$ we find that the point $(0,0)$ does not satisfy the inequation $2x \leq 3y - 8$. so, the region represented by the given equation is the shaded region.



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