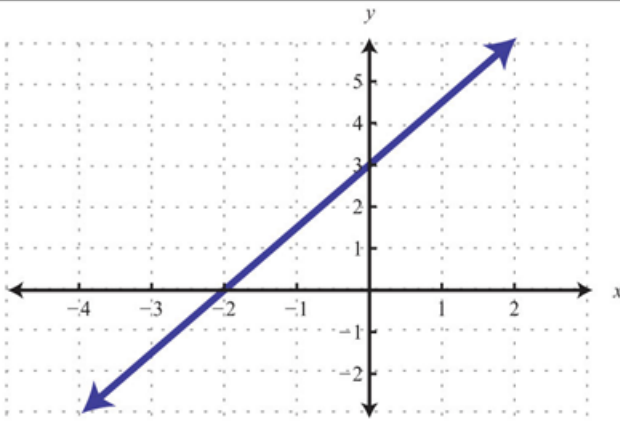
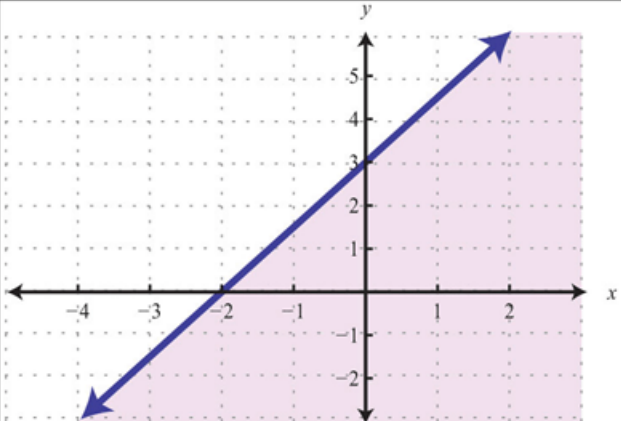


**FlexiPrep: Downloaded from flexiprep.com [https://www.flexiprep.com/]**

For solved question bank visit [doorsteptutor.com](https://www.doorsteptutor.com) [https://www.doorsteptutor.com] and for free video lectures visit [Examrace YouTube Channel](https://youtube.com/c/Examrace/) [https://youtube.com/c/Examrace/]

## NCERT Class 11 Mathematics Solutions: Chapter 6 – Linear Inequalities Miscellaneous Exercise Part 1

Glide to success with Doorsteptutor material for CBSE/Class-7 : [get questions, notes, tests, video lectures and more](https://www.doorsteptutor.com/Exams/CBSE/Class-7/) [https://www.doorsteptutor.com/Exams/CBSE/Class-7/] - for all subjects of CBSE/Class-7.

Linear Equation	Linear Inequality
$y = \frac{3}{2}x + 3$	$y \leq \frac{3}{2}x + 3$
	

1. Solve the inequality  $2 \leq 3x - 4 \leq 5$  .

Answer:

$$2 \leq 3x - 4 \leq 5$$

$$\Rightarrow 2 + 4 \leq 3x - 4 + 4 \leq 5 + 4$$

$$\Rightarrow 6 \leq 3x \leq 9$$

$$\Rightarrow 2 \leq x \leq 3$$

So, all the real numbers,  $x$ , which are greater than or equal to 2 but less than or equal to 3, are the solutions of the given inequality.

The solution set for the given inequality is  $[2, 3]$ .

2. Solve the inequality  $6 \leq -3(2x - 4) < 12$

Answer:

$$6 \leq -3(2x - 4) < 12$$

$$\Rightarrow 2 \leq -(2x - 4) < 4$$

$$\Rightarrow -2 \geq 2x - 4 > -4$$

$$\Rightarrow 4 - 2 \geq 2x > 4 - 4$$

$$\Rightarrow 2 \geq 2x > 0$$

$$\Rightarrow 1 \geq x > 0$$

So, the solution set for the given inequality is  $(0, 1]$ .

3. Solve the inequality  $-3 \leq 4 - \frac{7x}{2} \leq 18$ .

Answer:

$$-3 \leq 4 - \frac{7x}{2} \leq 18$$

$$\Rightarrow -3 - 4 \leq -\frac{7x}{2} \leq 18 - 4$$

$$\Rightarrow -7 \leq -\frac{7x}{2} \leq 14$$

$$\Rightarrow 7 \geq \frac{7x}{2} \geq -14$$

$$\Rightarrow 1 \geq \frac{x}{2} \geq -2$$

$$\Rightarrow 2 \geq x \geq -4$$

So, the solution set for the given inequality is  $[-4, 2]$ .