

ASSIGNMENT NO.1
COURSE CODE-AI1110
Probability And Random Variables

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Question 1a

Solve the following inequation and write down the solution set:

$$11x-4 < 15x+4 \leq 13x+14, x \text{ belongs to } W$$

Represent the solution on number line .

Solution

There are two inequations.

Lets solve for left inequation.

$$11x-4 < 15x+4$$

$$\Rightarrow -8 < 15x-11x$$

$$\Rightarrow -2 < x$$

Lets solve for right inequation.

$$15x+4 \leq 13x+14$$

$$\Rightarrow 2x \leq 10$$

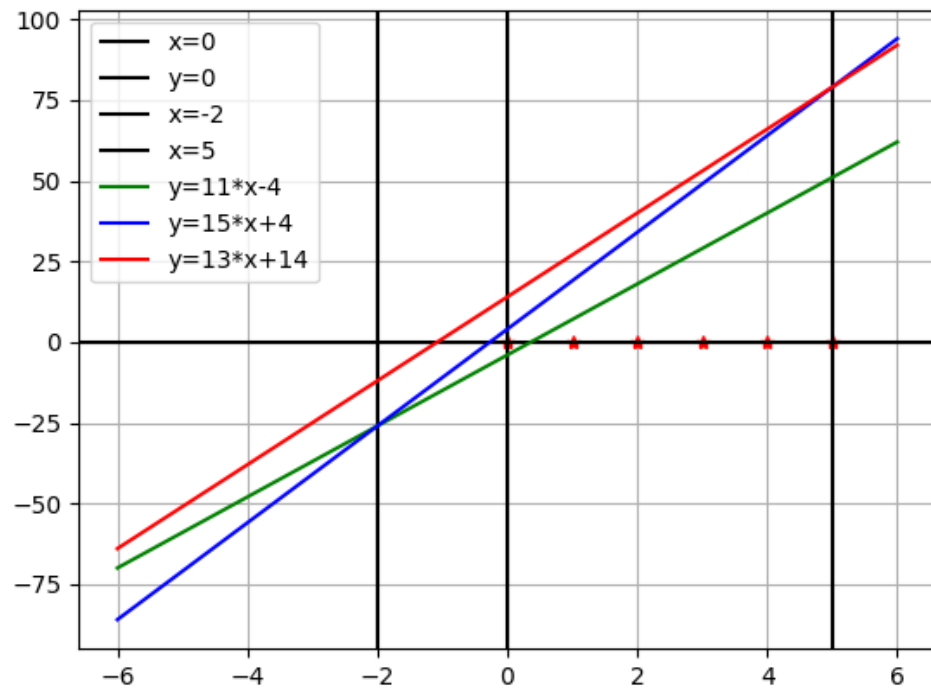
$$\Rightarrow x \leq 5$$

$$-2 < x \leq 5$$

This plot shows three lines :

$$y=11x-4, y=15x+4, y=13x+14.$$

Red stars are solution points trapped between $x=-2$ and $x=5$ on number line $y=0$ verifying our solution.



x belongs to W
 $\Rightarrow x = 0, 1, 2, 3, 4, 5$ is the required solution

THIS PLOT REPRESENTS A NUMBER LINE WITH REQUIRED SOLIUTION POINTS.

