Objective: Graphical Method for Solving a Linear Programming Problem

New Version

Solution

For the mathematical linear programming problem, maximize $Z = 4x + y$ subject to the constraints $x + y \leq 5$, $2x + y \geq 6$, $x \geq 0$, $y \geq 0$ **(A)** Graph the ***feasible region*** of the problem. **(B)** Find whether the feasible region is ***bounded*** or ***unbounded***. **(C)** Use Corner Point Method to determine the ***maximum value*** of ***Z***.

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How to plot graph

○Bounded ○Unbounded Maximum Value =

Solution:

Step 1: Graph the inequality $x + y \leq 5$. ***Show Steps***

Step 2: Graph the inequality $2x + y \geq 6$. ***Show Steps***

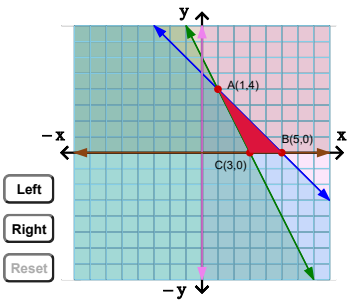
Step 3: Graph the inequality $x \geq 0$.

Step 4: Graph the inequality $y \geq 0$.

(A) The common region **12** in the figure is the feasible solution.

(B) The feasible region is ***bounded feasible solution***.

(C) The value of **Z** at the vertices are ***tabluated***



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