Linear Inequations Ex 15.6 Q7

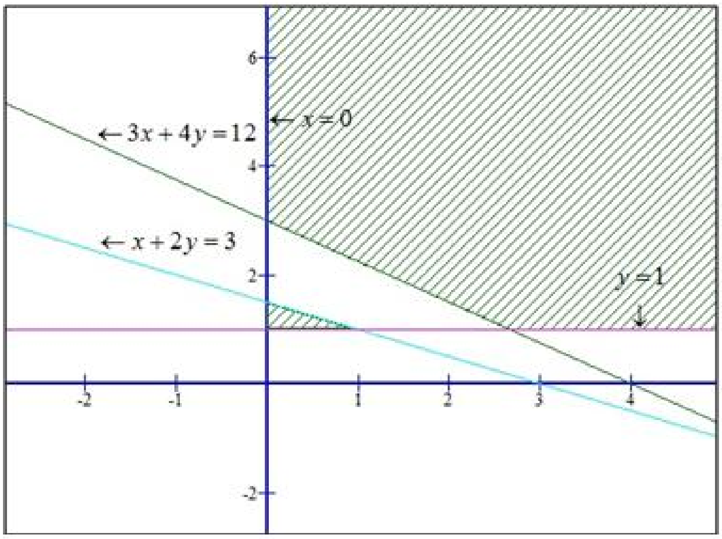
Converting the inequations into equations, we get $x+2y=3, 3x+4y=12, x=0, y=1$.

Region represented by $x+2y\le 3$:
The line $x+2y=3$ meets the co ordinate axes at (0, 3/2) and (3, 0). We find that (0, 0) satisfies inequation $x+2y\le 3$. So the portion containing origin represents the solution set of the inequation $x+2y\le 3$.

Region represented by $3x+4y\ge 12$:
The line $3x+4y=12$ meets the co ordinate axes at (0, 3) and (4, 0). We find that (0, 0) does not satisfy inequation $3x+4y\ge 12$. So the portion not containing the origin is represented by the inequation $3x+4y\ge 12$.

Region represented by $x\ge 0$:
Clearly, $x\ge 0$ represents the region lying on the right side of y-axis.

Region represented by $y\ge 1$:
The line $y=1$ is parallel to x-axis. (0, 0) does not satisfy inequation $y\ge 1$. So the region lying above the line $y=1$ is represented by $y\ge 1$.

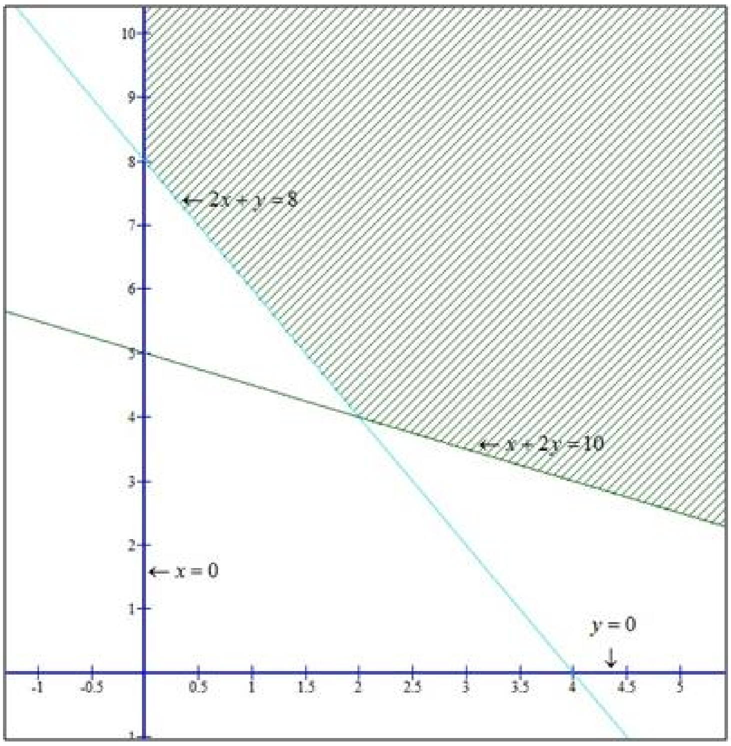


From graph we can see that there is no common region bounded by all the four inequalities. So there is no solution set satisfying the given inequalities.

Linear Inequations Ex 15.6 Q8

Converting the inequations into equations, we get
$2x + y = 8, x + 2y = 10, x = 0, y = 0$.

Region represented by $2x + y \geq 8$:
The line $2x + y = 8$ meets the co ordinate axes at $(0, 8)$ and $(4, 0)$. We find that $(0, 0)$ does not satisfy inequation $2x + y \geq 8$ .So the portion not containing the



From graph we can see that the solution set satisfying the given inequalities is an unbounded region.

*********** END **********