Exercise 3

Special Cases in GM

1- Unbounded Solution

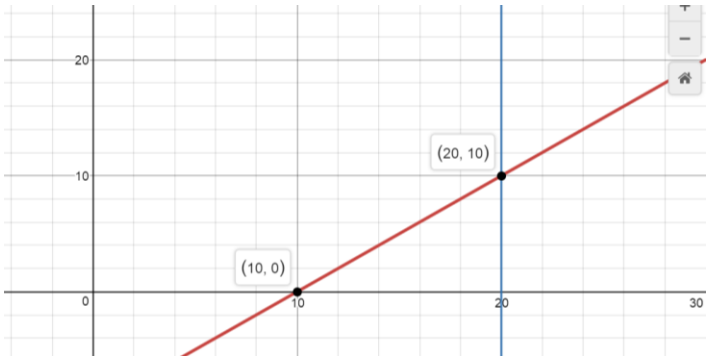
Max $Z = 2X_1 + X_2$

Subject to

$X_1 - X_2 \leq 10$

$2X_1 \leq 40$

$X_1 \geq 0, X_2 \geq 0$



2- Infeasible (No Solution)

Max $Z = 200X_1 + 300X_2$

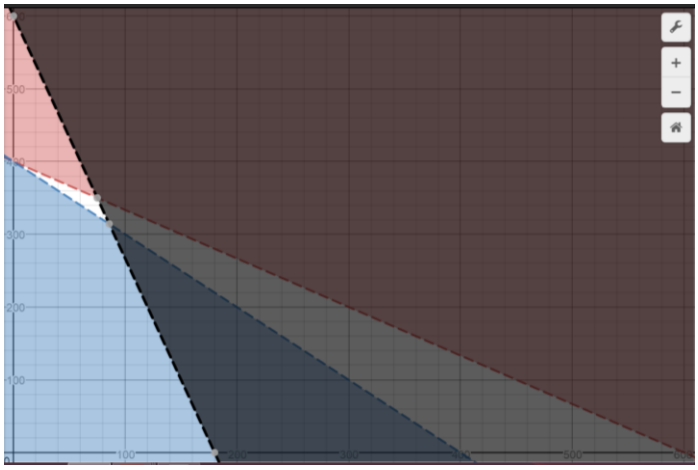
Subject to

$0.2X_1 + 0.3X_2 \geq 120$

$0.1X_1 + 0.1X_2 \leq 40$

$0.5X_1 + 0.15X_2 \geq 90$

$X_1 \geq 0, X_2 \geq 0$



3-Multiple Optimal solution

1- Max $Z = 200X_1 + 400X_2$

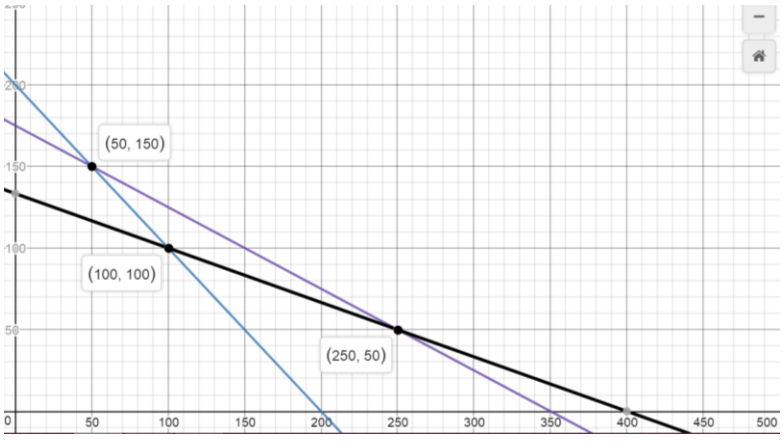
Subject to

$X_1 + X_2 \geq 200$

$X_1 + 3X_2 \geq 400$

$X_1 + 2X_2 \leq 350$

$X_1 \geq 0, X_2 \geq 0$



(X_1, X_2)	Z
(100,100)	60000
(50,150)	70000
(250,50)	70000