

# MGT 312 Profit Maximizing Production

Your company produces three products A, B, C

	Selling Price	Cost per unit	SP - Cost = Profit per unit
A	50	28	$50 - 28 = 22$
B	45	35	$45 - 35 = 10$
C	60	10	$60 - 10 = 50$

Each product uses 3 Materials M1, M2, & M3

	M1	M2	M3
A	5	3	8
B	4	7	1
C	6	2	5

You have 100 units of M1  
150 units of M2  
125 units of M3

To Excel

	A	B	C		Used	Available
Units to produce						
profit per unit	22	10	50			
Constraints						
M1	5	4	6	Sumproduct(Produce, M1 row)	$\leq$	100
M2	3	7	2	Sumproduct(Produce, M2)	$\leq$	150
M3	8	1	5	Sumproduct(Produce, M3)	$\leq$	125

Annotations: "variable cells" points to the A, B, C columns. "total profit (objective function)" points to the profit per unit row. "Sumproduct(Produce, Profit)" points to the profit per unit row.

Plug into Solver!

Objective function - Max - total profit formula

Variable cells - units to produce row

Constraints:

All 3 "used" fractions  $\leq$  All 3 "Available" numbers

Check "Simplex LP" and press solve.

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