

1. Given the following Linear Programming problem.

Maximize $z = 30x_1 + 15x_2 - 6x_3$ subject to constraints

$$-2x_1 + 8x_2 + x_3 \leq 120$$

$$x_1 + 7x_2 - 2x_3 \leq 240$$

$$x_1 - x_2 \leq 170$$

$$x_1, x_2, x_3 \geq 0$$

i. Rewrite the objective function above in standard form

$$x_1 \quad x_2 \quad x_3 \quad =$$

ii. Rewrite the corresponding system of constraints equation in standard form

$$-2x_1 + 8x_2 + x_3 + S_1 = 120$$

$$x_1 \quad x_2 \quad x_3 \quad =$$

$$x_1 \quad x_2 \quad =$$

iii. Convert the standard form above into First Initial Tableau Table.

x_1	x_2	x_3	S_1	S_2	S_3	Z	C

2. Solve the linear Programming Problem using Simplex method.

Maximize $P = x + y$ subject to constraints

$$x + 2y \leq 6$$

$$2x - y \leq -1$$

$$x \geq 0, y \geq 0$$

standard form

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← objective function.

1st tableau

x	y	s_1	s_2	P	C	
						-
						-

2nd tableau

x	y	s_1	s_2	P	C

$$R_2 = R_2 - 2R_1$$

$$R_3 = R_3 + R_1$$

$$x = \quad y = \quad s_1 = \quad s_2 = \quad P =$$

So, the max value is at (,)

