Minimizar

$$Z = 0.30x_1 + 0.90x_2$$

S.a

$$x_1 + x_2 \geq 800$$
$$0.21x_1 - 0.30x_2 \leq 0$$
$$0.03x_1 - 0.01x_2 \geq 0$$
$$x_1, x_2 \geq 0$$

Modelo Estándar

Maximiza

$$F.O = -Z = -0.3x_1 - 0.9x_2 + 0s_1 + 0s_2 + 0s_3 - 9x_a - 9x_b$$

S.a

$$x_1 + x_2 - s_1 + x_a = 800$$
$$0.21x_1 + 0.3x_2 + s_2 = 0$$
$$0.03x_1 + 0.01x_2 - s_3 + x_b = 0$$

Tabla Previa

Cj	B	x_1	x_2	s_1	s_3	bi
-9	x_a	1	1	-1	0	800
-9	x_b	0.21	-0.3	0	0	0
0	s_2	0.03	-0.01	0	-1	0
	z	-0.3	-0.9	0	0	

Tabla inicial

Cj	B	x_1	x_2	s_1	s_3	bi
-9	x_a	1	1	-1	0	800
-9	x_b	0.21	-0.3	0	0	0
0	s_2	0.03	-0.01	0	-1	0
	Z	10.59	5.4	-9	0	-7200

Iteración #1

Cj	B	s_2	x_2	s_1	s_3	bi
-9	x_a	$-\frac{100}{3}$	$\frac{4}{3}$	-1	$\frac{100}{3}$	800
-9	x_b	-7	$-\frac{23}{100}$	0	7	0
-0.3	x_1	$\frac{100}{3}$	$-\frac{1}{3}$	0	$-\frac{100}{3}$	0
	Z	-353	$\frac{893}{100}$	-9	353	-7200

Iteración #2

Cj	B	s_2	x_2	s_1	x_b	bi
-9	x_a	0	$\frac{17}{3}$	-1	-100	800

	x_1					
	Z	-353	$\frac{893}{100}$	-9	353	-7200

Iteración #2

Cj	B	S_2	x_2	S_1	x_b	bi
-9	x_a	0	$\frac{17}{7}$	-1	$\frac{-100}{21}$	800
0	S_3	-1	$\frac{-23}{700}$	0	$\frac{1}{7}$	0
-0.3	x_1	0	$\frac{-10}{7}$	0	$\frac{100}{21}$	0
	Z	0	$\frac{1437}{70}$	-9	$\frac{-353}{7}$	-7200

Iteración #3

Cj	B	S_2	x_a	S_1	x_b	bi
-0.9	x_2	0	$\frac{7}{17}$	$\frac{-7}{17}$	$\frac{-100}{51}$	$\frac{5600}{17}$
0	S_3	-1	$\frac{23}{700}$	$\frac{-23}{1700}$	$\frac{4}{51}$	$\frac{184}{17}$
-0.3	x_1	0	$\frac{10}{17}$	$\frac{-10}{17}$	$\frac{100}{51}$	$\frac{800}{17}$
	Z	0	$\frac{-1437}{170}$	$\frac{-93}{170}$	$\frac{-173}{17}$	$\frac{-7440}{17}$

$x_1 = 8000/17 \approx 470.588$

$x_2 = 5600/17 \simeq 329.411$

Con un valor mínimo de la función objetivo de:

$$Z = \frac{7440}{17} \simeq 437.647$$

Satisfaciendo las restricciones

$x_1 + x_2 \geq 800$

$8000/17 + 5600/17 \geq 800$

$13600/17 \geq 800$

$800 \geq 800$

$0.21x_1 - 0.3x_2 \leq 0$

$0.21(8000/17) - 0.3(5600/17) \leq 0$

$8000/17 + 5600/17 \geq 800$

$13600/17 \geq 800$

$800 \geq 800$

$0.21x_1 - 0.3x_2 \leq 0$

$0.21(8000/17) - 0.3(5600/17) \leq 0$

$0 \leq 0$

$0.03x_1 - 0.01x_2 \geq 0$

$0.03(8000/17) - 0.01(5600/17) \geq 0$

$10.823 \geq 0$

Que coincide con el valor de $S_3 = \frac{184}{17} \approx 10.823$