EJERCICIO 3.1

Minimizar $z = 3x_1 + 5x_2$
S. a $\longrightarrow$
$$6x_1 + 9x_2 \geq 18$$
$$4x_1 - 7x_2 \geq 28$$
$$x_1, x_2 \geq 0$$

DUAL

$z = 18y_1 + 28y_2$ Maximizar
$$6y_1 + 4y_2 \leq 3$$
$$9y_1 - 7y_2 \leq 5$$
$$x_1, x_2 \geq 0$$

$$z - 18y_1 - 28y_2 = 0$$
$$6y_1 + 4y_2 + S_1 = 3$$
$$9y_1 - 7y_2 + S_2 = 5$$

	z	y_1	y_2	S_1	S_2	R
z	1	-18	-28	0	0	0
S_1	0	6	4	1	0	3
S_2	0	9	-7	0	1	5

$\Rightarrow 3/4 = 0.75$
$\Rightarrow 5/7 = -0.7142$

$5/4$; $z + 28S_1$; $S_2 + 7S_1$

	Z	y1	y2	S1	S2	R
Z	1	24	0	7	0	21
(y2)S1	0	3/2	1	1/4	0	3/4
S2	0	51	0	7/4	1	41/4

Se invalida y_1:

$y_1 = 0$; $y_2 = 2/3$; $Z = 100/3$

$6x_1 + 9x_2 \geq 18$

$6x_1 + 9x_2 = 18$

$6x_1 + 9x_2 - 18 = 0$

$(6x_1 + 9x_2 - 18)(y_1) = 0$

$(6x_1 + 9x_2 - 18)(0) = 0$

$x_2 = 0$

$4x_1 - 7x_2 \geq 28$

$4x_1 - 7x_2 = 28$

$4x_1 - 7x_2 - 28 = 0$

$(4x_1 - 7x_2 - 28)(2y_2) = 0$

$\frac{8}{3}x_1 - \frac{14}{3}x_2 - \frac{56}{3} = 0$

$x_1 = 7$

Min $Z = 3(7) + 5(0)$

$Z = 21$

$x_1 = 7$
$x_2 = 0$
$Z = 21$