

PROVA 1

$$\text{MAX } Z = 5x_1 + 4x_2$$

$$\text{SA } 6x_1 + 4x_2 \leq 24$$

$$x_1 + 2x_2 \leq 6$$

$$-x_1 + x_2 \leq 1$$

$$x_2 \leq 2$$

$$x_1, x_2 \geq 0$$

FORMA PADRAO

$$-Z + 5x_1 + 4x_2$$

$$6x_1 + 4x_2 + x_{t1} = 24$$

$$x_1 + 2x_2 + x_{t2} = 6$$

$$-x_1 + x_2 + x_{t3} = 1$$

$$x_2 + x_{t4} = 2$$

BASE	x_1	x_2	x_{t1}	x_{t2}	x_{t3}	x_{t4}	RHS
x_{t1}	6	4	1	0	0	0	24 $\frac{24}{6}=4$
x_{t2}	1	2	0	1	0	0	6 $\frac{6}{1}=6$
x_{t3}	-1	1	0	0	1	0	1 $\frac{1}{1}=1$
x_{t4}	0	1	0	0	0	1	2 $\frac{2}{1}=2$
-Z	5	4	0	0	0	0	0

BASE	x_1	x_2	x_{t1}	x_{t2}	x_{t3}	x_{t4}	RHS
$(-5)(0)(+1)(-1)x_1$	1	$\frac{2}{3}$	$\frac{1}{6}$	0	0	0	4 $\frac{4}{\frac{2}{3}}=6$
$\hookrightarrow x_{t2}$	0	$\frac{4}{3}$	$\frac{1}{6}$	1	0	0	2 $\frac{2}{\frac{4}{3}}=\frac{3}{2}$
$\hookrightarrow x_{t3}$	0	$\frac{5}{3}$	$\frac{1}{6}$	0	1	0	5 $\frac{5}{\frac{5}{3}}=3$
$\hookrightarrow x_{t4}$	0	1	0	0	0	1	2 $\frac{2}{1}=2$
$\hookrightarrow -Z$	0	$\frac{7}{3}$	$\frac{5}{6}$	0	0	0	-20

	BASE	x_1	x_2	x_3	x_4	x_5	x_6	RHS	
$\rightarrow x_1$		1	0	$\frac{1}{4}$	4	0	0	3	$5x_1 + x_2 = 120$
$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$(-\frac{1}{4}) \times$	$5x_1 + x_2 = 120$
$\rightarrow x_2$		0	1	$\frac{3}{8}$	$\frac{3}{4}$	0	0	$\frac{3}{2}$	$5x_1 + x_2 = 120$
$\rightarrow x_3$		0	0	$\frac{3}{8}$	10	1	0	$\frac{5}{2}$	$5x_1 + x_2 = 120$
$\rightarrow x_4$		0	0	$\frac{1}{8}$	6	0	1	$\frac{1}{2}$	$5x_1 + x_2 = 120$
$-Z$		0	0	$-\frac{3}{4}$	$-\frac{1}{2}$	0	0	-21	$5x_1 + x_2 = 120$

RESPOSTA: $x_1 = 3$ $x_4 = 0$ $x_5 = \frac{5}{2}$

$x_2 = \frac{3}{2}$ $x_3 = 0$ $x_6 = \frac{1}{2}$

$Z = 21$

	BASE	x_1	x_2	x_3	x_4	x_5	x_6	RHS
$\rightarrow x_1$		1	0	$\frac{1}{4}$	4	0	0	3
$\rightarrow x_2$		0	1	$\frac{3}{8}$	$\frac{3}{4}$	0	0	$\frac{3}{2}$
$\rightarrow x_3$		0	0	$\frac{3}{8}$	10	1	0	$\frac{5}{2}$
$\rightarrow x_4$		0	0	$\frac{1}{8}$	6	0	1	$\frac{1}{2}$
$-Z$		0	0	$-\frac{3}{4}$	$-\frac{1}{2}$	0	0	-21

	BASE	x_1	x_2	x_3	x_4	x_5	x_6	RHS
$\rightarrow x_1$		1	0	$\frac{1}{4}$	4	0	0	3
$\rightarrow x_2$		0	1	$\frac{3}{8}$	$\frac{3}{4}$	0	0	$\frac{3}{2}$
$\rightarrow x_3$		0	0	$\frac{3}{8}$	10	1	0	$\frac{5}{2}$
$\rightarrow x_4$		0	0	$\frac{1}{8}$	6	0	1	$\frac{1}{2}$
$-Z$		0	0	$-\frac{3}{4}$	$-\frac{1}{2}$	0	0	-21