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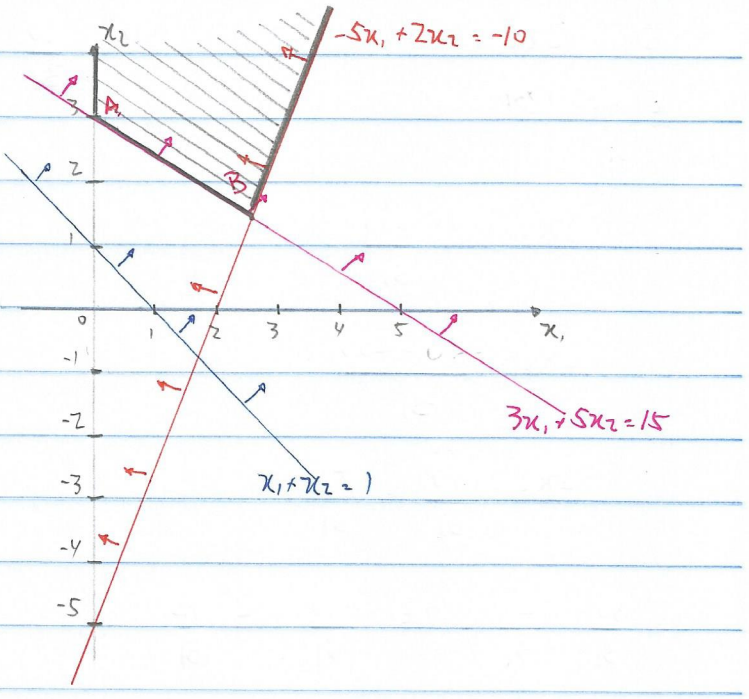
MIN $x_1 + 2x_2$ ⑤

SUJEITO A $x_1 + x_2 \geq 1$ ④

$-5x_1 + 2x_2 \geq -10$ ③

$3x_1 + 5x_2 \geq 15$ ②

$x_1, x_2 \geq 0$ ①



② $3x_1 + 5x_2 \geq 15$

$3x_1 + 5x_2 = 15$

x_1	x_2
0	3
5	0

③ $-5x_1 + 2x_2 \geq -10$

$-5x_1 + 2x_2 = -10$

x_1	x_2
0	-5
2	0

④ $x_1 + x_2 \geq 1$

$x_1 + x_2 = 1$

x_1	x_2
0	1
1	0

MIN $Z = x_1 + 2x_2$

$A(0,3) \cdot Z = 0 + 2.3 = 6$

$B \begin{cases} 3x_1 + 5x_2 = 15 \quad (2) \Rightarrow 6x_1 + 10x_2 = 30 \\ -5x_1 + 2x_2 = -10 \quad (-5) \quad 25x_1 - 10x_2 = 50 \end{cases}$

$31x_1 = 80$

$x_1 = \frac{80}{31}$

$-5x_1 + 2x_2 = -10$

$-\frac{5.80}{31} + 2x_2 = -10$

$2x_2 = -10 + \frac{400}{31}$

$2x_2 = \frac{-310 + 400}{31}$

$2x_2 = \frac{90}{31} = \frac{45}{31}$

$B\left(\frac{80}{31}; \frac{45}{31}\right) \cdot Z = \frac{80}{31} + 2.\frac{45}{31}$

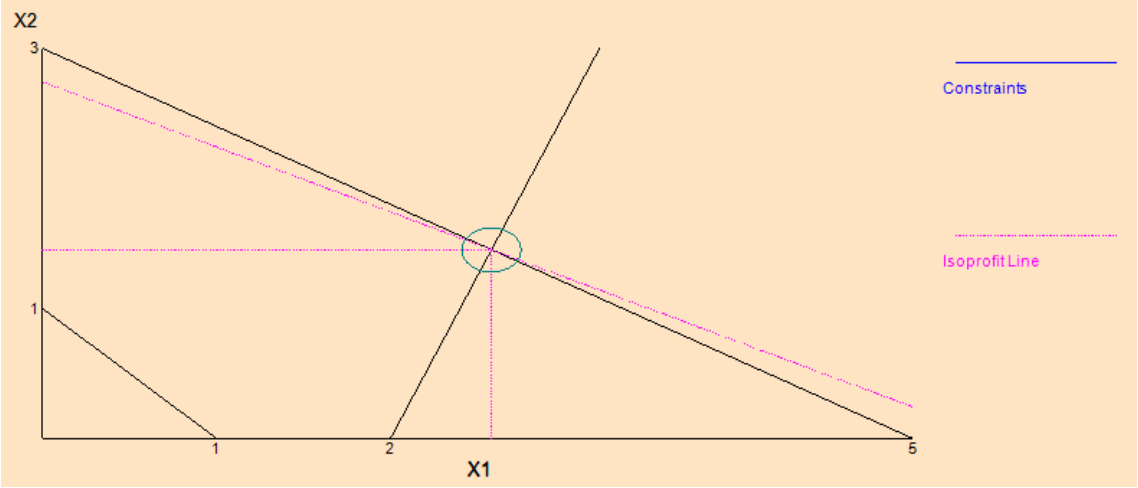
$Z = \frac{80}{31} + \frac{90}{31}$

$Z = \frac{170}{31} = 5{,}48$

RESPOSTA : $x_1 = \frac{80}{31}$

$x_2 = \frac{170}{31}$

$Z = \frac{170}{31}$



Constraint Display

- Min 1X1+2X2
- 1X1+1X2>=1
- 5X1-2X2<=10
- 3X1+5X2>=15
- none (selected)

X1	X2	Z
0	3	6
2,58...	1,45...	5,48...