

28/10/23

Maximize  $8X_1 + 5X_2$

$$X_1 + X_2 \leq 6$$

$$9X_1 + 5X_2 \leq 45$$

Resolva e repita  $Z = 8X_1 + 5X_2$

$$\text{I} \quad X_1 + X_2 = 6$$

$$\text{II} \quad 9X_1 + 5X_2 = 45$$

$$X_1 + X_2 = 6$$

$$9X_1 + 5X_2 = 45$$

$$1. \quad 0 + X_2 = 6$$

$$9. \quad 0 + 5X_2 = 45$$

$$0 + X_2 = 6$$

$$0 + 5X_2 = 45$$

$$X_2 = 6 - 0$$

$$5X_2 = 45 - 0$$

$$X_2 = 6$$

$$5X_2 = 45$$

$$X_2 = 9$$

$$X_1 + X_2 = 6$$

$$X_1 + 1.0 = 6$$

$$X_1 + 0 = 6$$

$$X_1 = 6 - 0$$

$$X_1 = 6$$

$$9X_1 + 5X_2 = 45$$

$$9X_1 + 5.0 = 45$$

$$9X_1 + 0 = 45$$

$$9X_1 = 45 - 0$$

$$9X_1 = 45$$

$$X_1 = 5$$

$$(-3) X_1 + X_2 = 6$$

$$9X_1 + 5X_2 = 45$$

$$X_1 = 5$$

$$9(4)$$

$$8.225$$

$$1.0$$

$$8$$

$$72$$

$$80$$

$$(-9) X_1 + X_2 \leq 6$$

$$9X_1 + 5X_2 = 45$$

$$-9X_1 - 9X_2 = -54$$

$$9X_1 + 5X_2 = 45$$

$$-4X_2 = -9$$

$$X_2 = -9$$

$$X_2 = -9$$

$$X_2 = -9$$

$$X_2 = -9$$

$$15(4)$$

$$12.375$$

$$0.30$$

$$28$$

$$620$$

$$4$$

$$60$$

$$-5X_1 - 5X_2 = -30$$

$$9X_1 + 5X_2 = 45$$

$$4X_1 + 0X_2 = 15$$

$$X_1 = 1.5$$

$$X_1 = 1.5$$

$$X_1 = 1.5$$

$$X_1 = 1.5$$

FORONI

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$$\begin{aligned} Z &= 41,25 \\ X_1 &= 3,75 \\ X_2 &= 2,25 \end{aligned}$$

$$\begin{aligned} 3,75 \\ 2,25 \\ \hline 6,00 \end{aligned}$$

(A)

$$\begin{aligned} Z &= 39 \\ X_1 &= 3 \\ X_2 &= 3 \end{aligned}$$

(B)

$$\begin{aligned} Z &= 40 \\ X_1 &= 4 \\ X_2 &= 1,8 \end{aligned}$$

(D)

$$\begin{aligned} Z &= 40,52 \\ X_1 &= 4,44 \\ X_2 &= 1 \end{aligned}$$

$$\begin{aligned} Z &= \\ X_1 &= \\ X_2 &= 2 \end{aligned}$$

Dem  
Solução  
Viável

$$\begin{aligned} Z &= 39 \\ X_1 &= 4 \\ X_2 &= 1 \end{aligned}$$

$$\begin{aligned} Z &= 40 \\ X_1 &= 5 \\ X_2 &= 0 \end{aligned}$$

Solução Ótima

$$\begin{aligned} 8X_1 + 5X_2 \\ 8 \cdot 3,75 + 5 \cdot 2,25 \end{aligned}$$



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$$\begin{aligned} \textcircled{A} \quad x_1 + x_2 &= 6 \\ 3 + x_2 &= 6 \\ x_2 &= 6 - 3 \\ x_2 &= 3 \end{aligned}$$

$$\begin{array}{r} 90 \\ 50 \\ \hline 40 \end{array}$$

$$\begin{aligned} \textcircled{B} \quad 9x_1 + 5x_2 &= 45 \\ 9 \cdot 4 + 5x_2 &= 45 \\ 36 + 5x_2 &= 45 \\ 5x_2 &= 45 - 36 \\ 5x_2 &= 9 \\ x_2 &= 9/5 \end{aligned}$$

$$x_2 = 1.8$$

$$\begin{array}{r} 350 \\ 223.5 \\ \hline 126.5 \end{array}$$

$$\begin{aligned} \textcircled{C} \quad x_1 + x_2 &= 6 \\ x_1 + 1.2 &= 6 \\ x_1 + 2 &= 6 \\ x_1 &= 6 - 2 \\ x_1 &= 4 \end{aligned}$$

$$\begin{aligned} 9x_1 + 5x_2 &= 45 \\ 9x_1 + 5 \cdot 2 &= 45 \\ 9x_1 + 10 &= 45 \\ 9x_1 &= 45 - 10 \\ 9x_1 &= 35 \\ x_1 &= 35/9 \end{aligned}$$

$$\begin{array}{r} 060 \\ 54 \\ \hline 06 \end{array}$$

Am abheben

$$\begin{aligned} \textcircled{D} \quad x_1 + x_2 &= 6 \\ x_1 + 1.1 &= 6 \\ x_1 + 1 &= 6 \\ x_1 &= 6 - 1 \\ x_1 &= 5 \end{aligned}$$

$$\begin{aligned} 9x_1 + 5x_2 &= 45 \\ 9x_1 + 5 \cdot 1 &= 45 \\ 9x_1 + 5 &= 45 \\ 9x_1 &= 45 - 5 \\ 9x_1 &= 40 \\ x_1 &= 40/9 \end{aligned}$$

$$\begin{array}{r} 401.9 \\ 36.555 \\ \hline 040 \\ 36 \\ \hline 040 \\ 36 \\ \hline 06 \end{array}$$

$$x_1 = 4.44$$

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E

$$x_1 + x_2 = 6$$

$$4.1 + x_2 = 6$$

$$4 + x_2 = 6$$

$$x_2 = 6 - 4$$

$$x_2 = 2$$

$$9.1 + 5x_2 = 45$$

$$9.4 + 5x_2 = 45$$

$$36 + 5x_2 = 45$$

$$5x_2 = 45 - 36$$

$$5x_2 = 9$$

$$9x_1 + 5x_2 = 45$$

$$9.1 + 5x_2 = 45$$

$$9 + 5x_2 = 45$$

$$5x_2 = 45 - 9$$

$$5x_2 = 36$$

$$x_2 = 36/5$$

$$x_2 = 7.2$$

F

$$9.5 + 5x_2 = 45$$

$$45 + 5x_2 = 45$$

$$5x_2 = 45 - 45$$

$$5x_2 = 0$$

$$x_1 + x_2 = 6$$

$$1.5 + x_2 = 6$$

$$5 + x_2 = 6$$

$$x_2 = 6 - 5$$

$$x_2 = 1$$



