David Cardoner
(cuando todas $b_i < 0$)
hemos acabado

$$\min \; -5x_1 - 32x_2$$

$$\text{s.a.} \quad x_1 - 8x_2 + x_3 = 3$$
$$x_1 - 4x_2 + x_4 = 5$$
$$x_1 - 3x_2 - x_5 = 3$$

$x_1, x_2 \geq 0$ $\qquad I_B = \{3, 4, 5\}$

$$B = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \Longrightarrow B^{-1} = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix}$$

$$X_B = B^{-1} \cdot b = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \begin{pmatrix} 3 \\ 5 \\ 3 \end{pmatrix} = \begin{pmatrix} 3 \\ 5 \\ -3 \end{pmatrix} \not\geq 0$$

sale x_5

$$Y = B^{-1} R = \begin{pmatrix} 1 & 0 & 0 \\ 0 & 1 & 0 \\ 0 & 0 & -1 \end{pmatrix} \cdot \begin{pmatrix} 1 & -8 \\ 1 & -4 \\ 1 & -3 \end{pmatrix} = \begin{pmatrix} 1 & -8 \\ 1 & -4 \\ -1 & 3 \end{pmatrix}$$

$$\theta = \min \left\{ \frac{b_j}{y_{ij}}, y_{ij} > 0 \; \forall \right\} \rightarrow \frac{-3}{3} = -1 \quad \text{sale } x_5$$

$$C_R = C_R - \mu \cdot R = C_R = [-5 \quad -32]$$
$$\hookrightarrow C_B \cdot B^{-1} = 0 \qquad \text{Cuentra } x_2$$

$$B = \{3, 4, 2\} \qquad NB = \{1, 5\} \qquad B = \begin{pmatrix} 1 & 0 & -8 \\ 0 & 1 & -4 \\ 0 & 0 & -3 \end{pmatrix}$$

$$\bar{b} = B^{-1} \cdot b = \begin{pmatrix} 1 & 0 & -8/3 \\ 0 & 1 & -4/3 \\ 0 & 0 & -1/3 \end{pmatrix} \cdot \begin{pmatrix} 3 \\ 5 \\ 3 \end{pmatrix} = \begin{pmatrix} -5 \\ 1 \\ -1 \end{pmatrix} \qquad B^{-1} = \begin{pmatrix} 1 & 0 & -8/3 \\ 0 & 1 & -4/3 \\ 0 & 0 & -1/3 \end{pmatrix}$$

$\bar{C}_R = C_R - \mu \cdot R$

$\quad \hookrightarrow C_B \cdot B^{-1}$

$$\mu = [0 \quad 0 \quad -32] \cdot \begin{bmatrix} 1 & 0 & -8/3 \\ 0 & 1 & -4/3 \\ 0 & 0 & -1/3 \end{bmatrix}$$

$$= [0 \quad 0 \quad 32/3]$$

$$\mu \cdot R = [0 \quad 0 \quad 32/3] \cdot \begin{bmatrix} 1 & 0 \\ 1 & 0 \\ 1 & -1 \end{bmatrix}$$

$$\mu \cdot R = \begin{bmatrix} 32/3 & -32/3 \end{bmatrix}$$

$$\bar{C}_R = [-5 \quad 0] - [32/3 \quad -32/3] = \begin{matrix} x_1 & x_3 \\ (-47/3, & 32/3) \end{matrix}$$

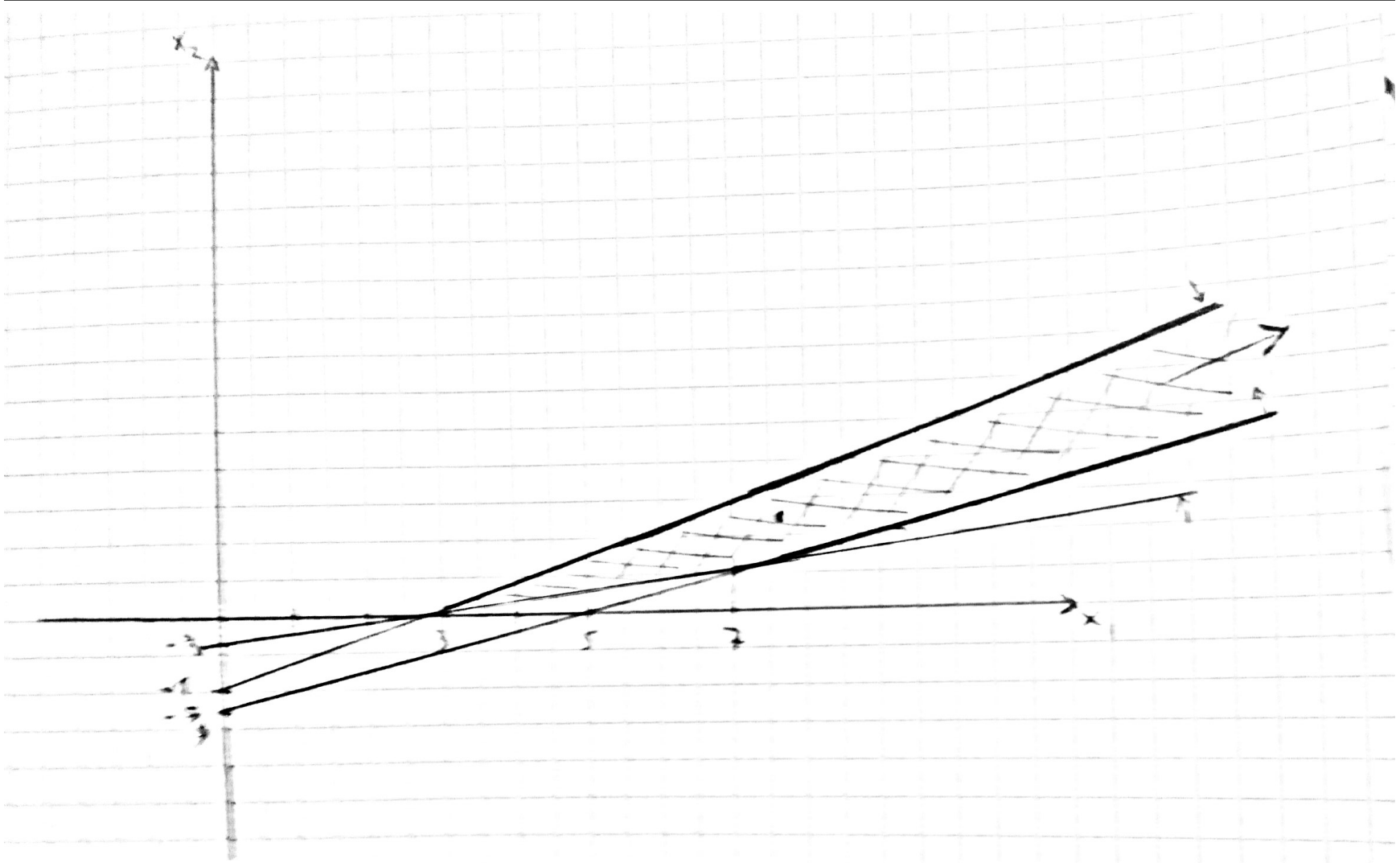
entra $\underline{x_1}$

$$Y = B^{-1} \cdot R = \underbrace{\begin{bmatrix} 1 & 0 & -8/3 \\ 0 & 1 & -4/3 \\ 0 & 0 & -1/3 \end{bmatrix}}_{B^{-1}} \cdot \underbrace{\begin{bmatrix} 1 & 0 \\ 1 & 0 \\ 1 & -1 \end{bmatrix}}_{R} = \begin{bmatrix} x_1 & x_3 \\ -5/3 & 8/3 \\ -1/3 & 4/3 \\ -1/3 & 1/3 \end{bmatrix}$$

NO ESTA ACOTADA

$$d = \{ -5/3 \quad -1/3 \quad -1/3 \quad 1 \quad 0 \}$$

x_i: 3 4 2 1 5



Canal 3 + Dreçà ⟹ Restricció.

La solució no està acotada i, per tant, sempre podrem trobar valors de x que maximitzin més la nostra funció objectiu.