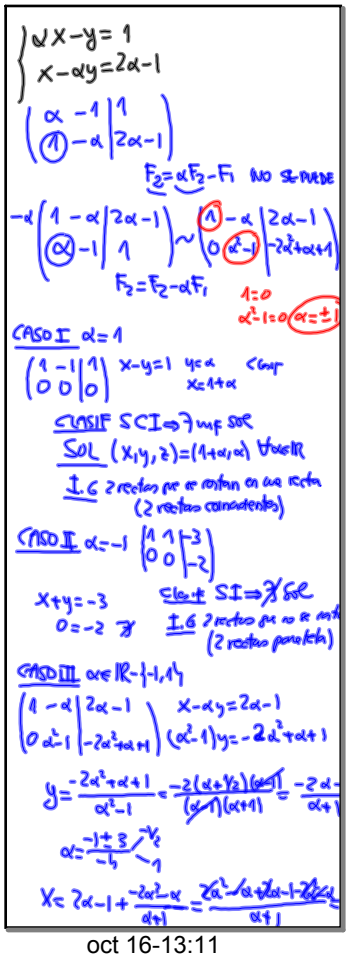

$$\begin{cases} \alpha x - y = 1 \\ x - \alpha y = 2\alpha - 1 \end{cases}$$

$$\left(\begin{array}{cc|c} \alpha & -1 & 1 \\ 1 & -\alpha & 2\alpha-1 \end{array}\right)$$

$F_2 = \alpha F_2 - F_1$ NO SE PUEDE

$$-\alpha\left(\begin{array}{cc|c} 1 & -\alpha & 2\alpha-1 \\ \alpha & -1 & 1 \end{array}\right) \sim \left(\begin{array}{cc|c} 1 & -\alpha & 2\alpha-1 \\ 0 & \alpha^2-1 & -2\alpha^2+\alpha+1 \end{array}\right)$$

$F_2 = F_2 - \alpha F_1$

$1 = 0$

$\alpha^2 - 1 = 0$ $\alpha = \pm 1$

CASO I $\alpha = 1$

$$\left(\begin{array}{cc|c} 1 & -1 & 1 \\ 0 & 0 & 0 \end{array}\right) \quad x - y = 1 \quad y = \alpha \quad x = 1 + \alpha \quad \text{Clasif}$$

CLASIF SCI $\Rightarrow \exists$ inf sol

SOL $(x, y, z) = (1+\alpha, \alpha)$ $\forall \alpha \in \mathbb{R}$

I.G 2 rectas que se cortan en una recta (2 rectas coincidentes)

CASO II $\alpha = -1$ $\left(\begin{array}{cc|c} 1 & 1 & -3 \\ 0 & 0 & -2 \end{array}\right)$

$x + y = -3$

$0 = -2$ $\nexists$

Clasif SI $\Rightarrow \nexists$ sol

I.G 2 rectas que no se cortan (2 rectas paralelas)

CASO III $\alpha \in \mathbb{R} - \{-1, 1\}$

$$\left(\begin{array}{cc|c} 1 & -\alpha & 2\alpha-1 \\ 0 & \alpha^2-1 & -2\alpha^2+\alpha+1 \end{array}\right) \quad x - \alpha y = 2\alpha - 1 \quad (\alpha^2-1)y = -2\alpha^2+\alpha+1$$

$$y = \frac{-2\alpha^2+\alpha+1}{\alpha^2-1} = \frac{-2(\alpha+1/2)\cancel{(\alpha-1)}}{\cancel{(\alpha-1)}(\alpha+1)} = \frac{-2\alpha-}{\alpha+1}$$

$$\alpha = \frac{-1 \pm 3}{-4} \quad -1/2, \ 1$$

$$x = 2\alpha - 1 + \frac{-2\alpha^2-\alpha}{\alpha+1} = \frac{\cancel{2\alpha^2} - \cancel{\alpha} + \cancel{2\alpha} - 1 - \cancel{2\alpha^2} - \cancel{\alpha}}{\alpha+1} =$$

oct 16-13:11