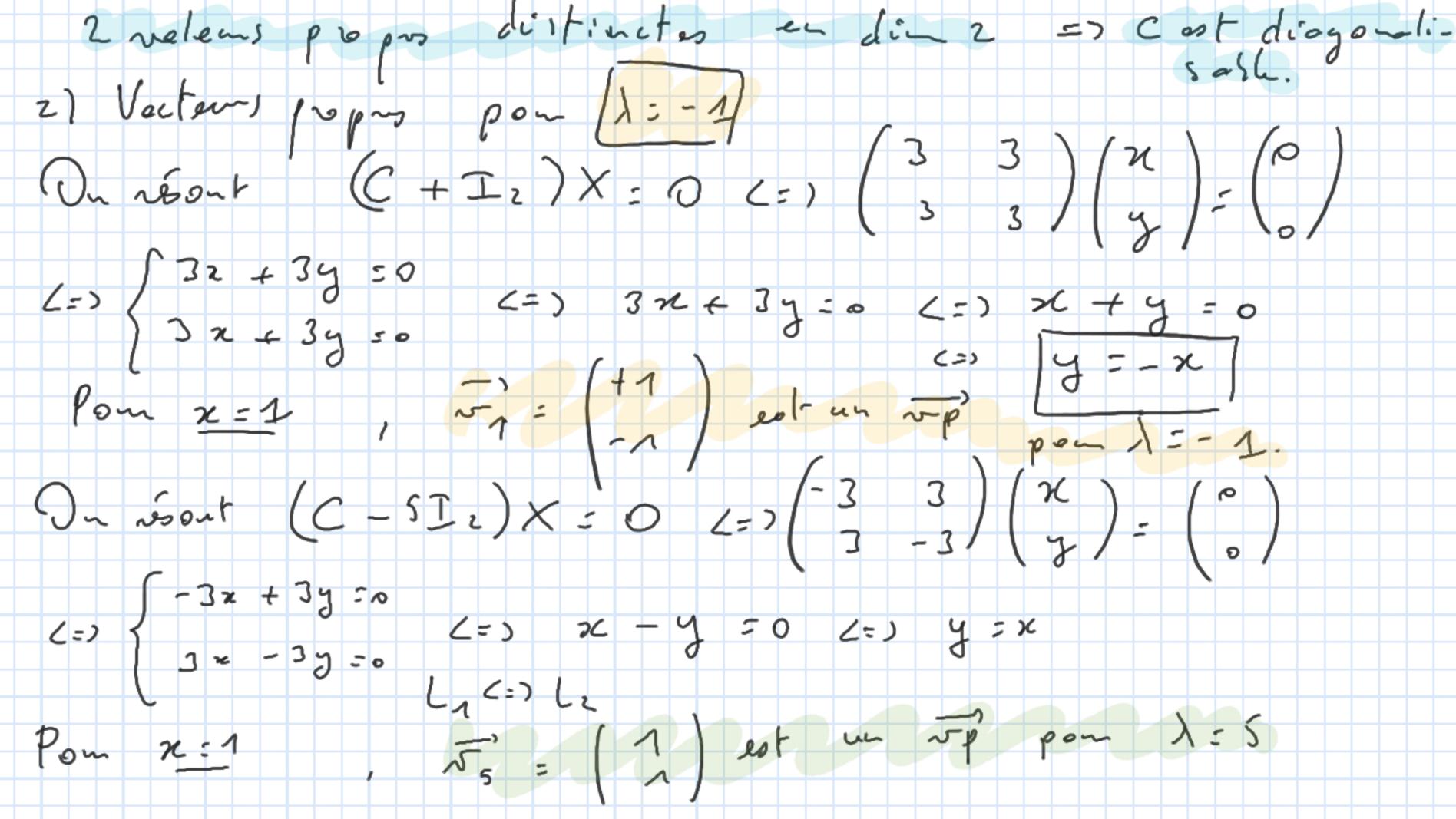
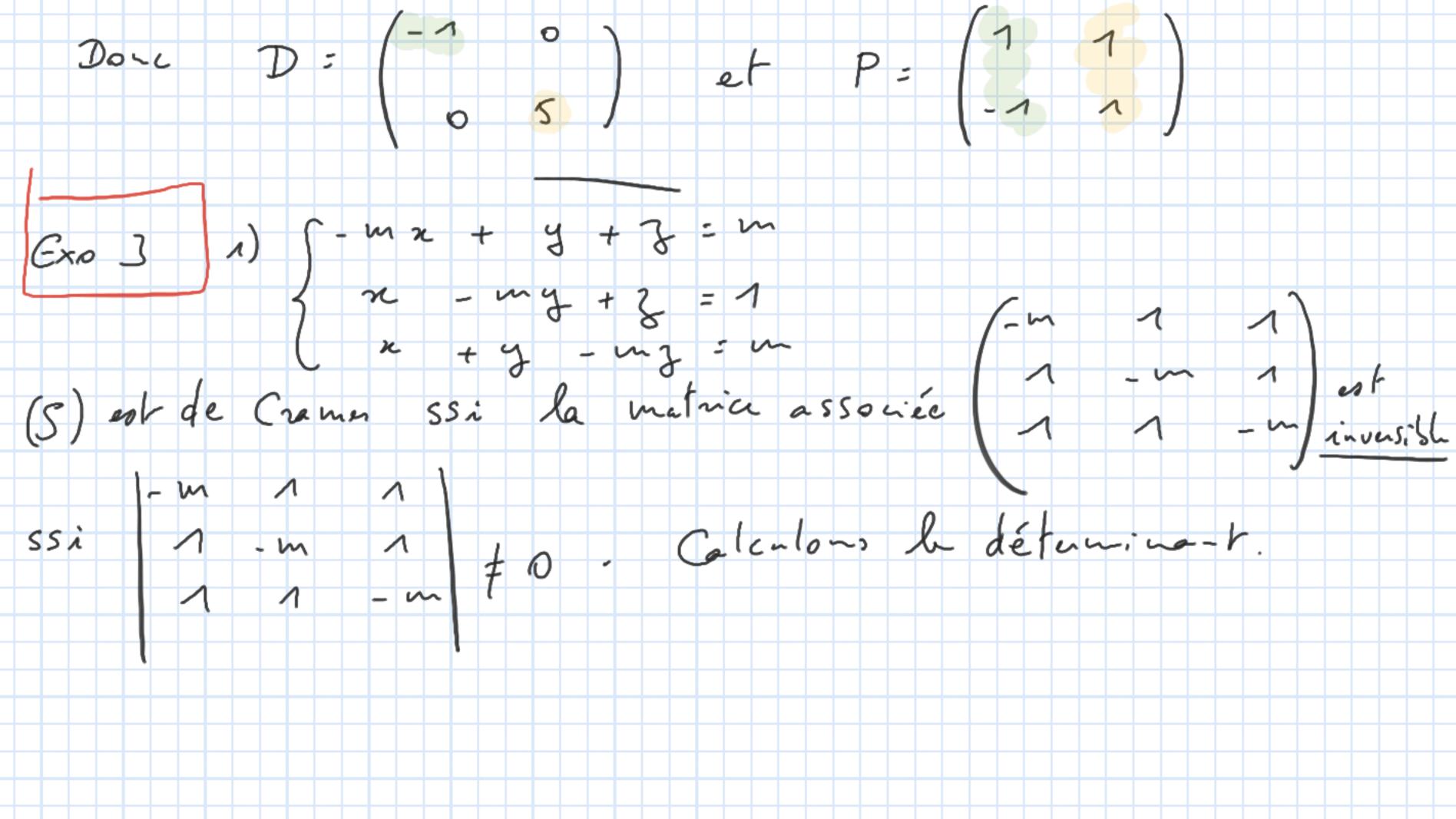
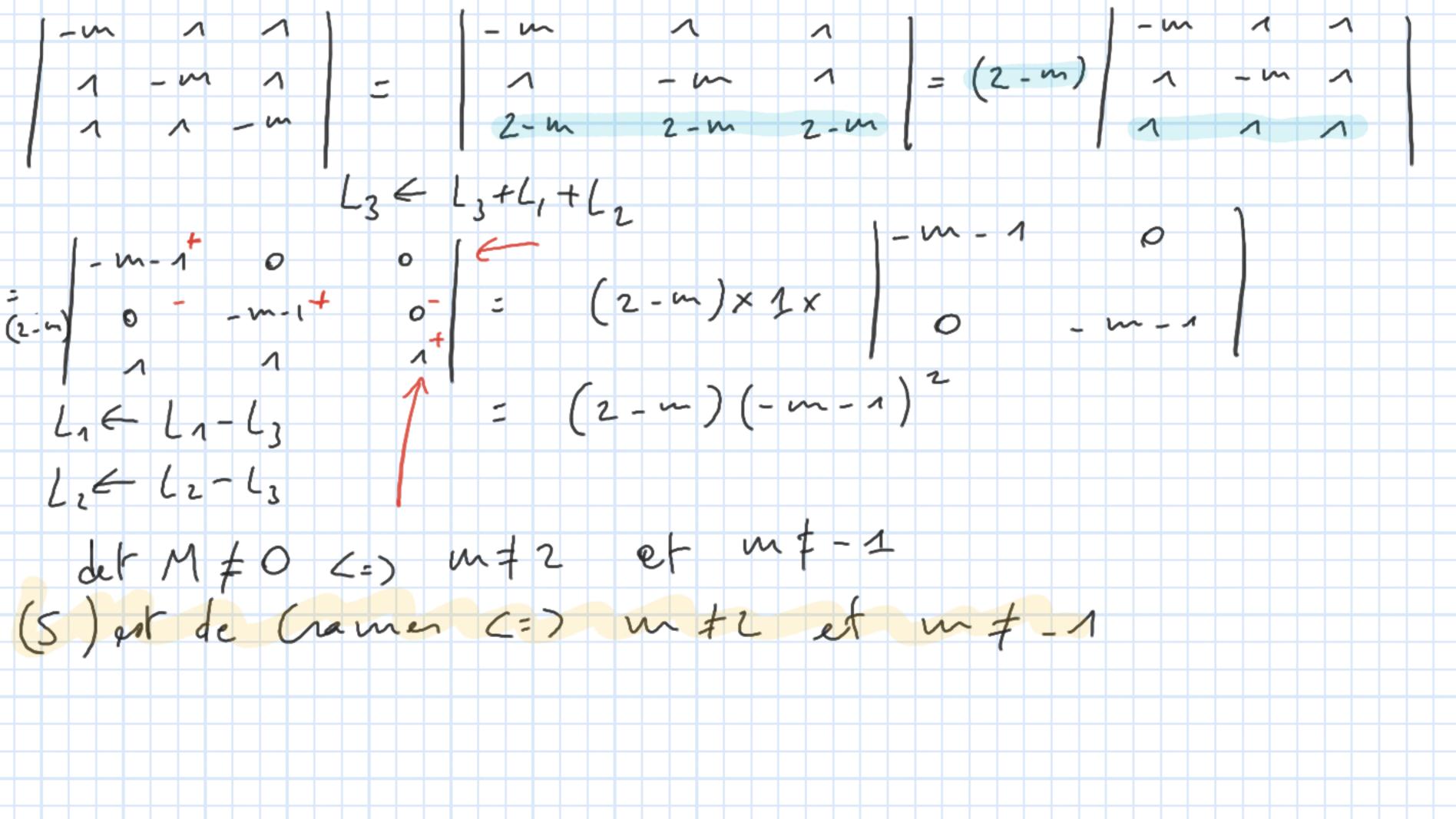
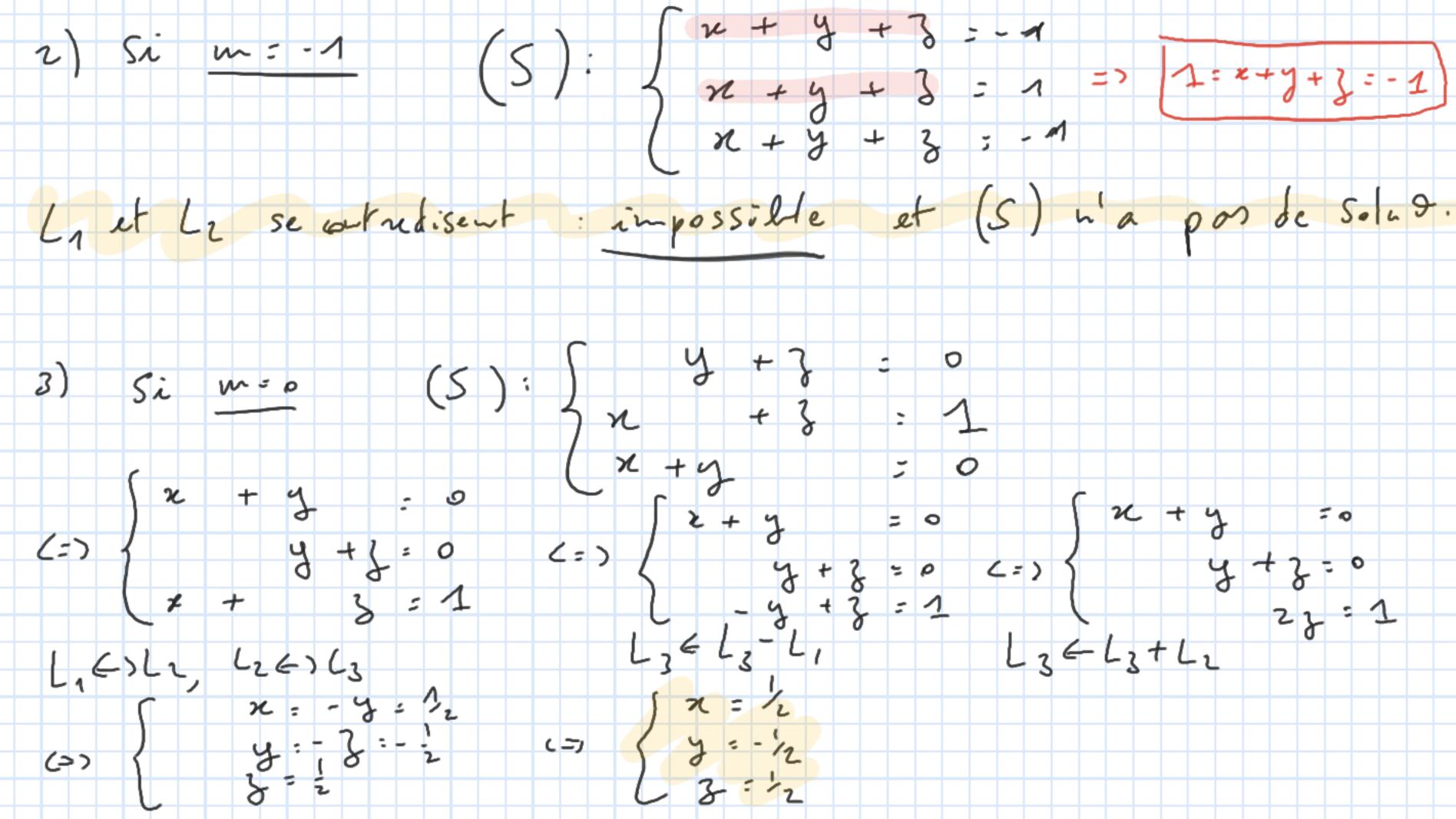
3) On a $A^n = (2 I_2 + B)^n$ I_2 come be avec toute matrix de $M_2(R)$ done or pent applique le binôme de Newtor : k = 0 $M = A : 2^{n} I_{2} + n2^{n-1} B = (2^{n} 3 \times n \times 2^{n-1})$ 0 2 $\begin{cases}
 u_{n+1} = 2u_{n+1} + 3 \sqrt{2} \\
 \sqrt{u_{n+1}} = 0u_{n+2} \sqrt{2} \\
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\end{cases}$ $\begin{cases}
 u_{n+2} = 2u_{n+2} \sqrt{2}
\end{cases}$

(4.6) (0.6, VnEIN c) Xn-1 = M Xn-2 $x_{n} = (u_{n}) = (2^{n} + 3n 2^{n}) = (2^{n} + 3$ $\varepsilon \times 02$ $C = \begin{pmatrix} 2 & 3 \\ 3 & 2 \end{pmatrix}$ λ² - 4λ - 5 Δ= 1(+20) = 36 = 6 20 1) Valeurs propris, vecteur propris. P(λ) = det ($C - \lambda I_2$) = $\begin{vmatrix} 2 - \lambda \\ 1 \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 - \lambda \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2 \end{vmatrix}$ = $\begin{vmatrix} 2 - \lambda \\ 2$ p 20 p 20 : 1:-1









$$(1-\lambda) \begin{pmatrix} -2 & 3 & 1 \\ -3 & 4 & 1 \end{pmatrix} = \begin{pmatrix} -2 & \lambda & 3 \\ 2 & -2 & 0 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 3 \\ 2 & -2 & 0 \end{pmatrix} = \begin{pmatrix} -2 & \lambda & 3 \\ -3 & 4 - \lambda & 1 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 3 \\ 1-\lambda & 4 - \lambda & 1 \end{pmatrix} = \begin{pmatrix} -2 & \lambda & 1 \\ 1-\lambda & 4 - \lambda & 1 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 & 1 - \lambda & 0 \end{pmatrix} = \begin{pmatrix} -2 & \lambda \\ 1 - \lambda & 1 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda \\ 0 & -2 & -\lambda \end{pmatrix} = \begin{pmatrix} -2 & \lambda \\ 0 & 1 - \lambda & 0 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 & 1 - \lambda & 0 \end{pmatrix} = \begin{pmatrix} -2 & \lambda \\ 0 & 1 - \lambda & 0 \end{pmatrix}$$

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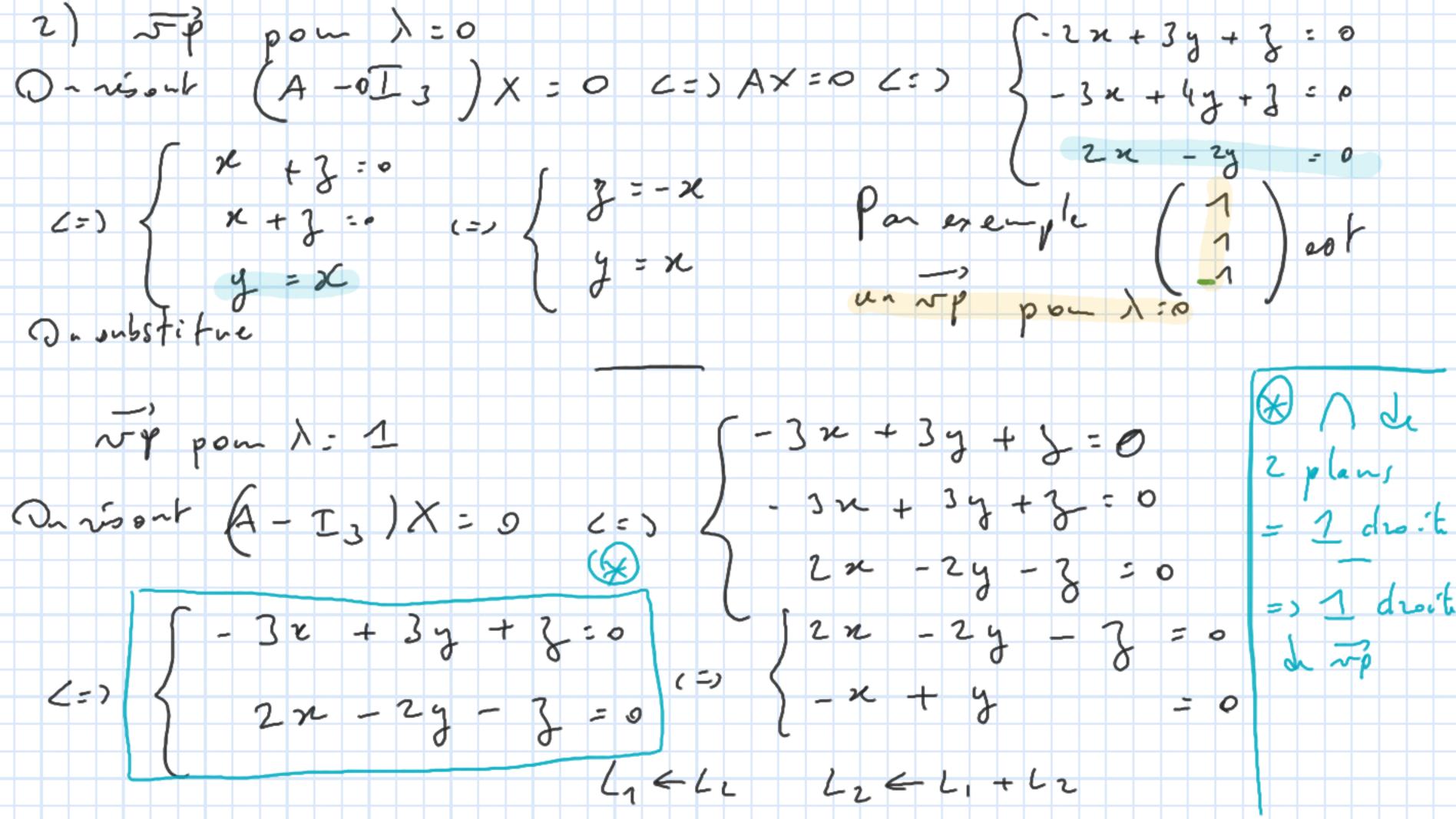
$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 & 1 - \lambda & 0 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 & 1 - \lambda & 0 \end{pmatrix}$$

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$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 & 1 - \lambda & 0 \end{pmatrix}$$

$$(1-\lambda) \begin{pmatrix} -2 & \lambda & 1 \\ 0 &$$



(0 -3 =0 (1) est un rp pon 1=1 7 4 = 20 On substitue 3) A i'est pos diagonalisable La maltiplicité de la rep $\lambda = 1$ est 2 mais tout les rép pou $\lambda = 1$ sont colinéaire à (')

—> PAS ASSEZ de rèp pou que lA soit

diagonalisable.

