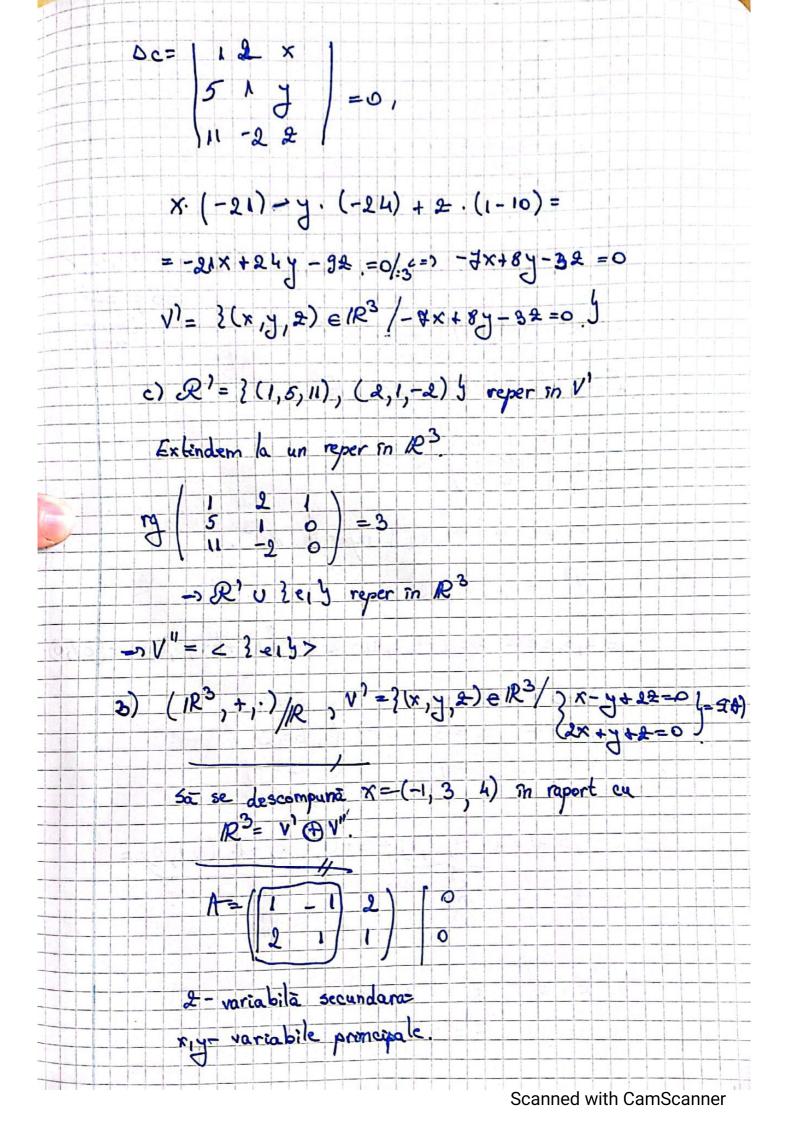
Seminar 5

Partea 1. Subspații vectoriale

$$\det\begin{pmatrix}\begin{bmatrix}1&2\\5&1\\1&-2&9\end{bmatrix}=0$$

)
$$a+2b=1$$
 $A=\begin{pmatrix} 1 & 2 \\ 5 & 1 \end{pmatrix}$
 $A=\begin{pmatrix} 1 & 2 \\ 5 & 1 \end{pmatrix}$
 $A=\begin{pmatrix} 1 & 2 \\ 1 & -2 \end{pmatrix}$
 $A=\begin{pmatrix} 1 & 2 \\ 2 & 1 \end{pmatrix}$



Partea a 2-a. Aplicata liniare Exi) f: 122->122, f(x1, x2) = (x1+x2, -x2) fe Aut (R2) (liniara si bijecteva) I) f lineara c=a) f(x+y)=f(x)+f(y)b) $f(a\cdot x)=a\cdot f(x)$, $\forall x,y \in \mathbb{R}^2$, $\forall a \in \mathbb{R}$ a) f(x+y)= f(x+y1) x2+y2) = (x1+y1+x2+y2 >-x2-y2) = (x1+x2,-x2) + (J1+J2,-J2) = f(x)+f(y) b) f(ax) = f(ax, , axe) = (ax, +axe, -axe) = = a. (x1+x2, -x2) = a. f(x) 1) kerf = 3x \(12 \) f(x) = 0 12 \\ Kerf = 30,02 1 => f inj Teorema dimensiona: dim 12 = dim Kerf + dim Jmf. => dim Jm f = 2 Jmf C 122 subspakie vectorial Jmf = 1R2 => surjectiva dim Jmf = dim 12 = 2 f bijectie + liniarà =) fe Aut (102)

En 2)
$$f: \mathbb{R}^3 \to \mathbb{R}^3$$
 $f(x_1, x_2, x_3) = (x_1 + 2x_2 + x_3) \frac{1}{2} \frac{1}{2} \frac{1}{3} \frac{$

