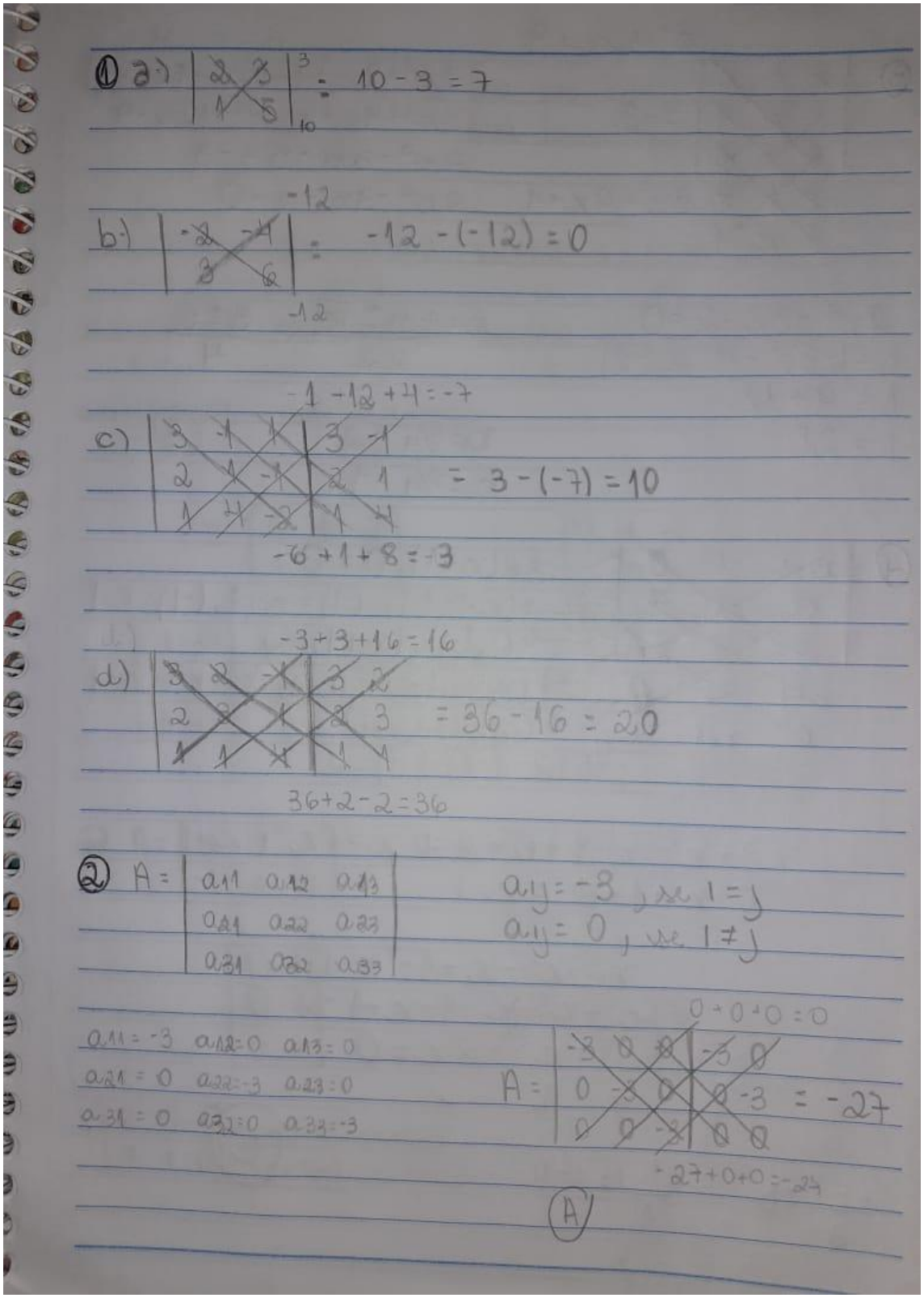
Evelyn Santos de Santana

CTII348

Determinantes - Matriz de Ordem 1, 2 e 3



$x^2+12x+9$

③  $= -3$

$3x^2+9x+4$

$3x^2+9x+4-(x^2+12x+9)$

$3x^2+9x+4-x^2+12x-9$

$2x^2-3x-5=-3$

$2x^2-3x-2=0$

$2x^2-3x-2=0$

$\Delta=(-3)^2-4.2.(-2)$

$\Delta=9+16$

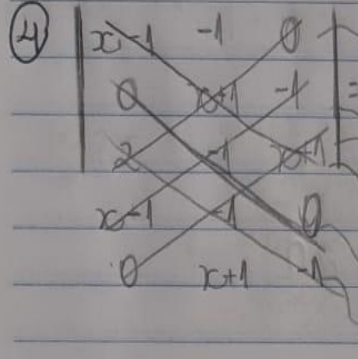
$\Delta=25$

$x=\frac{-(-3)\pm\sqrt{25}}{2.2}=\frac{3\pm5}{4}$

$x_1=8/4=2$

$x_2=-2/4=-1/2$

(E)

④ 

$2(x+1).0=0$

$=2 \rightarrow (x-1).(-1).(-1)=x+1.(-1)=x-1$

$0.(-1).(x+1)=0$

$(x-1).(x+1).(x+1)=x^3+x^2-x-1$

$0.(-1).0=0$

$2.(-1).(-1)=2$

$x^3+x^2-x-1+0+2 \Rightarrow x^3+x^2+x+1$

$0+x-1+0=x-1$

$x^3-x^2-x+1-(x-1)=2$

$x^3+x^2-x+1-x+1-2=0$

$x^3+x^2-2x=0$

a b c

$\frac{-b}{a} \Rightarrow \frac{-1}{1}=(-1)$

(C)

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⑤ $A=\begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \\ a_{31} & a_{32} \end{bmatrix}$ $B=\begin{bmatrix} b_{11} & b_{12} & b_{13} \\ b_{21} & b_{22} & b_{23} \end{bmatrix}$ $a_{ij}=2i-3j$ $b_{jk}=k-j$

$a_{11}=2.1-3.1 = -1$ $a_{12}=2.1-3.2 = -4$ $b_{11}=1-1=0$ $b_{12}=2-1=1$ $b_{13}=3-1=2$

$a_{21}=2.2-3.1 = 1$ $a_{22}=2.2-3.2 = -2$ $b_{21}=1-2=-1$ $b_{22}=2-2=0$ $b_{23}=3-2=1$

$a_{31}=2.3-3.1 = 3$ $a_{32}=2.3-3.2 = 0$

$B=\begin{bmatrix} 0 & 1 & 2 \\ 1 & 0 & 1 \end{bmatrix}$

$AB:\ \begin{vmatrix} 4 & -1 & -6 & 4 & -1 \\ 2 & * & * & 2 & 1 \\ 0 & 3 & 6 & 0 & 3 \end{vmatrix}$ $-0+0-12=12$

$A=\begin{bmatrix} -1 & -4 \\ 1 & -2 \\ -3 & 0 \end{bmatrix}$ $\begin{matrix} 0+4 & -1+0 & -2-4 \\ 0+2 & 1+0 & 2-2 \\ 0+0 & 3+0 & 6+0 \end{matrix}$ ⓒ $24+0-36=-12$

$-12-(-12)=0$

⑥ $A=\begin{bmatrix} 2 & 0 & -1 \\ -1 & 1 & 0 \end{bmatrix}$ $B=\begin{bmatrix} 1 & -1 \\ -1 & 1 \\ 0 & 2 \end{bmatrix}$

$\begin{bmatrix} 1 & -1 \\ -1 & 1 \\ 0 & 2 \end{bmatrix}$

$A.B=\begin{vmatrix} 2 & -4 \\ -2 & 2 \end{vmatrix}^{8}_{-1} =$

$\begin{bmatrix} 2 & 0 & -1 \\ -1 & 1 & 0 \end{bmatrix}$ $\begin{matrix} 2+0+0 & -2+0-2 \\ -1-1+0 & +1+1+0 \end{matrix}$ $=4-8=-4$

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