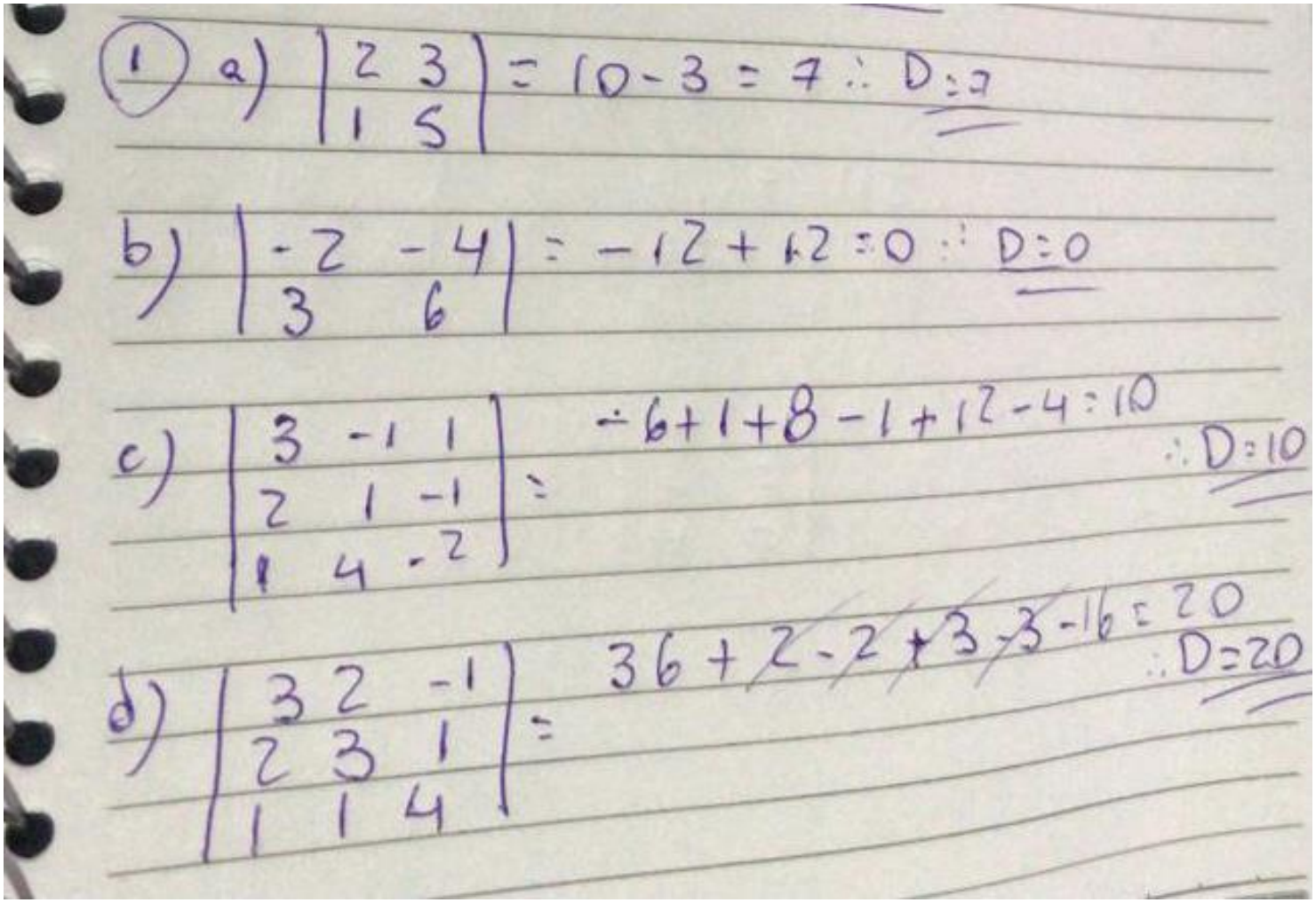
ESTHER DOS SANTOS MARTINS



(2) $A_{3\times3}$ $\begin{cases} -3, \text{ se } i=j \\ 0, \text{ se } i\neq j \end{cases}$ $D(A)=?$

$$\begin{vmatrix} -3 & 0 & 0 \\ 0 & -3 & 0 \\ 0 & 0 & -3 \end{vmatrix} \quad \therefore \quad -3\cdot-3\cdot-3 \quad D=-27$$

$D(A)=-27$

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(3) $$\begin{vmatrix} x & 1 & x \\ 3 & x & 4 \\ 1 & 3 & 3 \end{vmatrix} = -3$$

$\hookrightarrow 3x^2+4+9x-x^2-12x-9=-3$

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

$(-3)^2-4.2.(-2)$

$9+16$

25

$\frac{3\pm5}{4}$ $\begin{cases} 2 \\ -\frac{1}{2} \end{cases}$ $x=\{-\frac{1}{2}; 2\}$

(E)

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(4) $$\begin{vmatrix} (x-1) & -1 & 0 \\ 0 & (x+1) & -1 \\ 2 & -1 & (x+1) \end{vmatrix} = 2$$

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

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

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

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

$x(x^2+x-2)=0$

I. $x^2+x-2=0$

$1^2-4.1.(-2)$

$1+8$

9

$\frac{-1\pm3}{2}$ $\begin{cases} \frac{2}{2}=1 \\ -2 \end{cases}$

II. $x=0$

$\therefore 0+1-2=-1$

(C) -1

⑤ $A_{3\times 2}$ $a_{ij} = 2i - 3j$

$B_{2\times 3}$ $b_{jk} = k - j$

$$A = \begin{vmatrix} -1 & -4 \\ 1 & -2 \\ 3 & 0 \end{vmatrix} \qquad B = \begin{vmatrix} 0 & 1 & 2 \\ -1 & 0 & 1 \end{vmatrix}$$

$A \cdot B$

$$\begin{matrix} 0+4 & -1+0 & -2-4 \\ 0+2 & 1+0 & 2-2 \\ 0+0 & 3+0 & 6+0 \end{matrix} \qquad \begin{vmatrix} 4 & -1 & -6 \\ 2 & 1 & 0 \\ 0 & 3 & 6 \end{vmatrix} =$$

$24 - 0 - 36 - 0 - 0 + 12 = 0$

$\therefore D = 0$

(C) 0

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⑥ $\begin{vmatrix} 2 & 0 & -1 \\ -1 & 1 & 0 \end{vmatrix} \cdot \begin{vmatrix} 1 & -1 \\ -1 & 1 \\ 0 & 2 \end{vmatrix} =$ $\begin{matrix} 2+1 & 0-1 & -1+0 \\ -2-1 & 0+1 & 1+0 \\ 0-2 & 0+2 & 0+0 \end{matrix}$

$$\begin{vmatrix} 3 & -1 & -1 \\ -3 & 1 & 1 \\ -2 & 2 & 0 \end{vmatrix} = 0 + 2 + 6 - 2 - 6 - 0 = 0$$

$D = 0$

(C) 0