TAREFA BÁSICA 3

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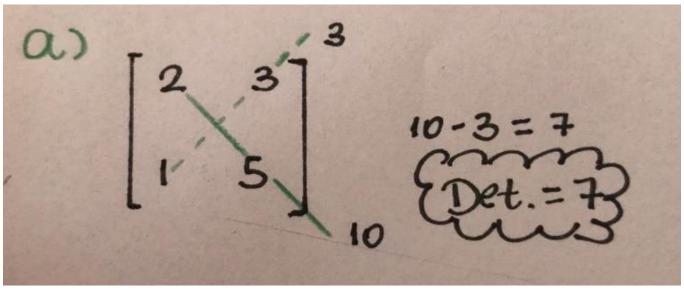
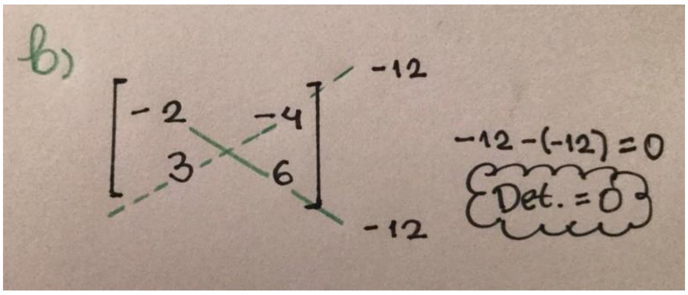
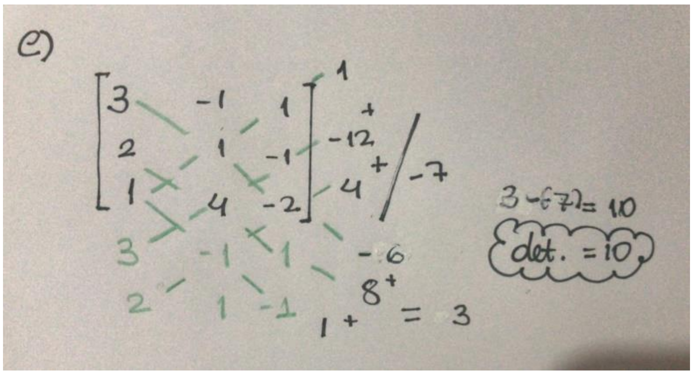
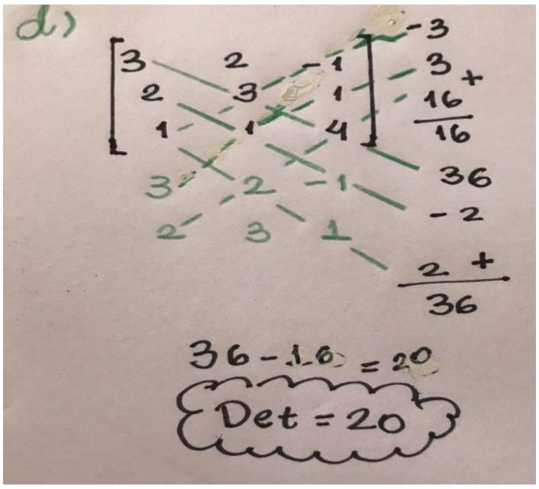
01. Calcule os determinantes das seguintes matrizes:



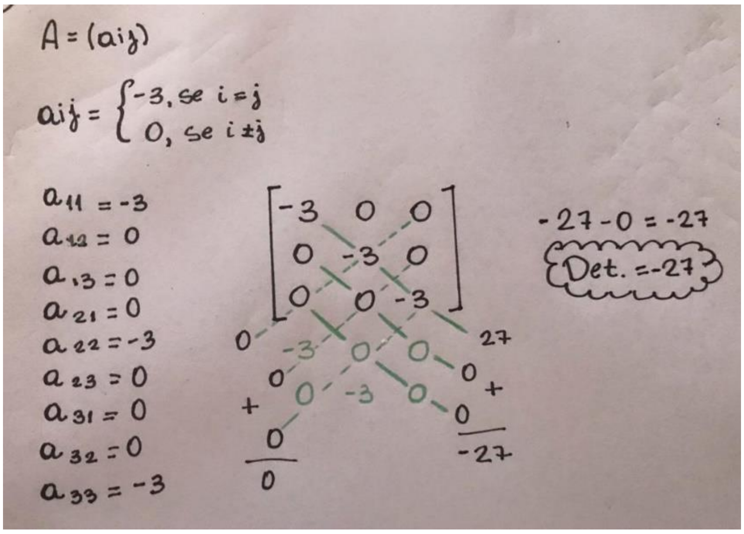




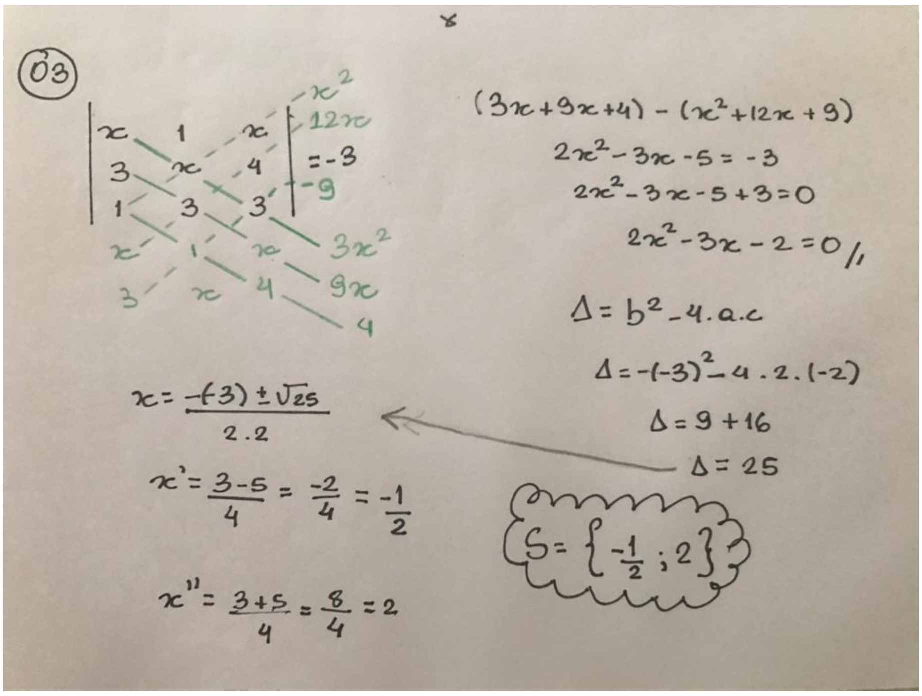


02. (MACK) Se A = (a_{ij}) é uma matriz quadrada de terceira ordem tal que

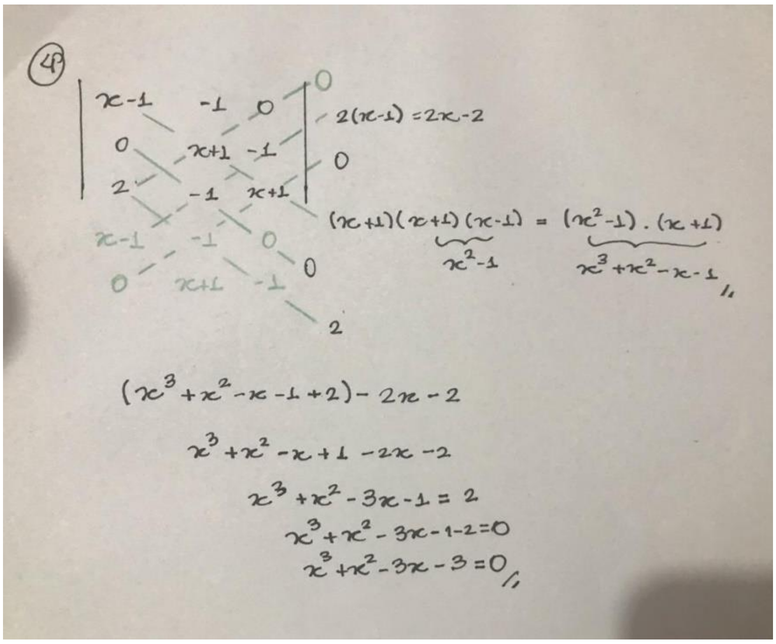
$a_{ij}= \begin{cases} -3, \text{se } i = j \\ 0, \text{se } i \neq j \end{cases}$ então o determinante de A vale:



03. (FUVEST) Resolver a equação



04. (MACK) A soma das raízes da equação é:



05. (UEL) Sejam as matrizes $A = (aij)_{3x2}$, tal que, $a_{ij} = 2i - 3j$ e $B = (b_{jk})_{2x3}$, tal que $b_{Jk} =$ k-j. O determinante da matriz A.B é igual a

05

$A = (aij)_{3x2}$

$aij = 2i - 3j$

$B = (bjk)_{2x3}$

$bjk = k - j$

$a_{11} = 2.1 - 3.1 = -1$

$a_{12} = 2.1 - 3.2 = -4$

$a_{21} = 2.2 - 3.1 = 1$

$a_{22} = 2.2 - 3.2 = -2$

$a_{31} = 2.3 - 3.1 = 3$

$a_{32} = 2.3 - 3.2 = 0$

$$A = \begin{bmatrix} a_{11} & a_{12} \\ a_{21} & a_{22} \\ a_{31} & a_{32} \end{bmatrix}$$

$$A = \begin{bmatrix} -1 & -4 \\ 1 & -2 \\ 3 & 0 \end{bmatrix}$$

$b_{11} = 1-1=0$

$b_{12} = 2-1=0$

$b_{13} = 3-1=2$

$b_{21} = 1-2=-1$

$b_{22} = 2-2=0$

$b_{23} = 3-2=1$

$$B = \begin{bmatrix} b_{11} & b_{12} & b_{13} \\ b_{21} & b_{22} & b_{23} \end{bmatrix}$$

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

$$AB = \begin{bmatrix} 4 & -1 & -6 \\ 2 & 1 & 0 \\ 0 & 3 & 6 \end{bmatrix}$$

4 -1 -6

2 1 0

0, 0, -12: -12

24, -36, 0 +: -12

$-12 - (-12) = 0$

det. AB = 0

06. Dadas as matrizes

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

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

$$AB = \begin{bmatrix} 2+0+0 & -2+0-2 \\ (-1)-1+0 & 1+1+0 \end{bmatrix}$$

$$AB = \begin{bmatrix} 2 & -4 \\ -2 & 2 \end{bmatrix}$$

8

4

$4 - 8 = -4$

det AB = -4