Nome: Beatriz Adolfo da Silva

Tarefa Básica

1) a) $A = \begin{bmatrix} 2 & 3 \\ 1 & 5 \end{bmatrix}$ $\det A = 2.5 - 1.3 = 7$

b) $A = \begin{bmatrix} -2 & -4 \\ 3 & 6 \end{bmatrix}$ $\det A = -2.6 - 3.-4 = 0$

c) $A = \begin{bmatrix} 3 & -1 & 1 \\ 2 & 1 & -1 \\ 1 & 4 & -2 \end{bmatrix}$ $\begin{matrix} 3 & -1 \\ 2 & 1 \\ 1 & 4 \end{matrix}$ $1+-12+4=-7$

$\det A = 3 - (-7) = 10$

$-6+1+8=3$

d) $\begin{bmatrix} 3 & 2 & -1 \\ 2 & 3 & 1 \\ 1 & 1 & 4 \end{bmatrix}$ $\begin{matrix} 3 & 2 \\ 2 & 3 \\ 1 & 1 \end{matrix}$ $36+2+-2=36$

$\det A = 36 - 16 = 20$

$-3+3+16=16$

2) $A = (a_{ij}) \rightarrow$ matriz quadrada de terceira

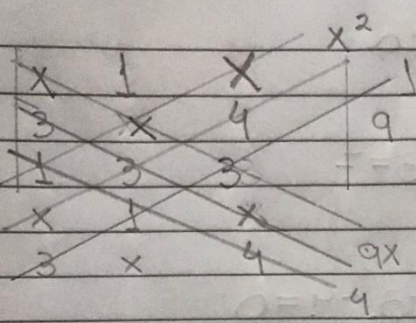
$a = \begin{cases} -3, \text{se } i = j \\ 0, \text{se } i \neq j \end{cases}$

$A \begin{bmatrix} -3 & 0 & 0 \\ 0 & -3 & 0 \\ 0 & 0 & -3 \end{bmatrix}$ $\begin{matrix} -3 & 0 \\ 0 & -3 \\ 0 & 0 \end{matrix}$ $0+0+0$

$\det A = -27$ letra A

$-27+0+0=$

3)



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

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

$2x^2-3x-5+3=0$

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

$\Delta = b^2-4ac$

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

$\Delta = 9+16$

$\Delta = 25$

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

$x = \frac{3+5}{4} = \frac{8}{4} = 2$

$x'' = \frac{3-5}{4} = \frac{-2}{4} = -\frac{1}{2}$

$\{-\frac{1}{2}; 2\}$

5) $A=(a_{ij})_{3\times 2}$ $a_{ij}=2i-3j$

$B=(b_{ij})_{2\times 3}$ $b_{ij}=j-k$

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

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

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

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

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

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

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

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

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

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

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

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

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

$$A.B=\begin{bmatrix} 0+4 & -1-0 & -2-4 \\ 0+2 & 1-0 & 2-2 \\ 0-0 & 3+0 & 6+0 \end{bmatrix}$$

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

$A.B = \begin{bmatrix} 4 & 1 & -6 \\ 2 & 1 & 0 \\ 0 & 3 & 6 \end{bmatrix} \begin{matrix} 4 & -1 \\ 2 & 1 \\ 0 & 3 \end{matrix}$

$24+0+-36=-12$

$\det A.B = -12(-12) = c$

letra C

$0+0+-12=-12$

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

$A.B = \begin{bmatrix} 2+0+0 & -2+0-2 \\ -1-1+0 & 1+1+0 \end{bmatrix}$ $A.B = \begin{bmatrix} 2 & -4 \\ -2 & 2 \end{bmatrix}$

$\det A.B = 4-8 = -4$ letra D