Tarefa Básica

01 $\begin{pmatrix} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{pmatrix} = -18$

$\begin{pmatrix} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{pmatrix} \begin{matrix} p & 2 \\ p & 4 \\ p & 4 \end{matrix} = -18$

$8p + 16p + 2p \quad 4p + 8p + 8p$

$8p+16p+2p = 26p$

$4p+8p+8p = 20p$

$\begin{pmatrix} p & -1 & 2 \\ p & -2 & 4 \\ p & -2 & 1 \end{pmatrix} = \begin{pmatrix} 3 & -1 & 2 \\ 3 & -2 & 4 \\ 3 & -2 & 1 \end{pmatrix} \begin{matrix} 3 & -1 \\ 3 & -2 \\ 3 & -2 \end{matrix}$

$(-12)+(-24)+(-3) = -39$

$-6+(-12)+(-12) = -30$

$\det = -30-(39) = 9$

$20p - 26p = -18$

$-6p = -18$

$p = \frac{-18}{6} = 3$

02 $A = \begin{bmatrix} a_{11} & a_{12} & a_{13} & a_{14} \\ a_{21} & a_{22} & a_{23} & a_{24} \\ a_{31} & a_{32} & a_{33} & a_{34} \\ a_{41} & a_{42} & a_{43} & a_{44} \end{bmatrix}$ $\det A = -6$

$\det B = k^n \cdot \det A$

$\det(2A) = x - 97$

$x - 97 = 2^4 \cdot (-6)$

$x - 97 = 16 \cdot (-6)$

$x - 97 = -96$

$x = 97 - 96$

$x = 1$

03) $\det B = k \cdot \det A$

$\det B = \begin{bmatrix} 1 \\ x \end{bmatrix} \cdot y \cdot \det A$

$\det B = \begin{bmatrix} x \\ y \end{bmatrix} \cdot \det A$

$\det B = \det A \begin{bmatrix} x \\ y \end{bmatrix}$

$[a_{11}\ a_{12}]\ \frac{(y \cdot a_{11})}{x}\ \frac{(y \cdot a_{22})}{x}$

$\frac{y \cdot \det}{x}$

04) $\begin{bmatrix} 2 & 1 & 0 \\ k & k & k \\ 1 & 2 & -2 \end{bmatrix} = 10$

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

$0 \quad 4k \quad -2k \quad -4k \quad k \quad 0$

$-4k - k - (4k - 2k) = 10$

$-4k + k - 2k = 10$

$-10 = -5$

$k = \frac{-10}{5} = -2$

$0 + 4k + (-2k) = 2k$

$-4k + k + 0 = -3k$

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

$0 \quad -12 \quad -4 \quad -4 \quad -3 \quad 0$

$0 + (-12) + (-4) = -16$

$-4 + (-3) + 0 = -7$

$\det = -7 - (-16) = 9$

x2

(05)

$$\begin{vmatrix} 1 & -11 & 6 \\ -2 & 4 & -3 \\ -3 & -7 & 2 \end{vmatrix}$$

$6x - 11 = 4$

$x = 2$

$6.2 = 12$

$12 - 11 = 1$

$-3.2 = 6$

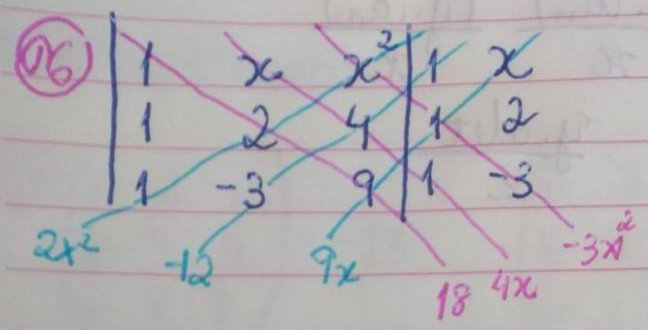
$-6 + 4 = -2$

$2.2 = 4$

$4 - 7 = -3$

(d) //

06)



$18x+4x-3x^2-2x^2+12-9x=0$

$-5x^2-5x+30=0$

$x^2+x-6=0$

$\Delta = 1^2-4.1.(-6)$

$\Delta = 1+24$

$\Delta = 25$

$x = \frac{-1 \pm \sqrt{25}}{2.1}$

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

$x'' = \frac{-1-5}{2} = \frac{-6}{2} = -3$

07)

$$\begin{vmatrix} 1 & 0 & 0 & 0 & 0 \\ 2 & 2 & 0 & 0 & 0 \\ 3 & 2 & 1 & 0 & 0 \\ 4 & 2 & 3 & -2 & 0 \\ 5 & 1 & 2 & 3 & 3 \end{vmatrix}$$

$\det = 1.2.1.-2.3 = -12$