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## Tarefa Básica - Propriedades dos Determinantes

01.  $A = \begin{pmatrix} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{pmatrix}$   $\rightarrow \times (-1/2)$

$\det A = -18$

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

$\det B = ?$

Letra E //

$\det B = -1/2 \cdot \begin{vmatrix} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{vmatrix}$

$\rightarrow \det B = \frac{-1}{2} \cdot (-18) = \frac{18}{2} = 9 //$

02.  $A_{4 \times 4} \rightarrow \det A = -6$

$\det(KA) = K^n \cdot \det A$

$\det(2A) = 2^4 \cdot -6$

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

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

$x = -96 + 97$

$x = 1 //$

Letra C //

03.  $\det B = K \cdot \det A$

$\det B = y \cdot \det A$

$x$

$\det B \cdot x = \det A$

$y$

$\det B \cdot \left( \frac{x}{y} \right) = \det A$

$\det B = \frac{\det A}{(x/y)}$  Letra C //

04.  $A = \begin{vmatrix} 2 & 1 & 0 \\ K & K & K \\ 1 & 2 & -2 \end{vmatrix} = 10$   $B = \begin{vmatrix} 2 & 1 & 0 \\ K+4 & K+3 & K-1 \\ 1 & 2 & -2 \end{vmatrix}$   $= \det A + \det B =$   
 $= 10 - 1 = 9$   $\text{Letra C}$

$B = \begin{vmatrix} 2 & 1 & 0 \\ 4 & 3 & -1 \\ 1 & 2 & -2 \end{vmatrix}$   $\det = -13 - (-12) = -1$   
 $-12 - 1 = -13$

05.  $\begin{pmatrix} 1 & -11 & 6 \\ -2 & 4 & -3 \\ -3 & -7 & 2 \end{pmatrix}$   $(1 - (-11)) / 2 = 12 / 2 = 6$   
 $(-2 - 4) / 2 = -6 / 2 = -3$   
 $(-3 - (-7)) / 2 = 4 / 2 = 2$   
 $\text{Letra D}$

06.  $\begin{vmatrix} 1 & x & x^2 \\ 1 & 2 & 4 \\ 1 & -3 & 9 \end{vmatrix} = 0 \rightarrow \begin{vmatrix} 1 & x & x^2 \\ 1 & 2 & 2^2 \\ 1 & -3 & (-3)^2 \end{vmatrix} = 0$

$(2-x)(-3-x)(-3-2) = 0$   
 $(-6-2x+3x+x^2)(-5) = 0$   
 $(-6+x+x^2)(-5) = 0$   
 $-5x^2 - 5x + 30 = 0$

$\Delta = (-5)^2 - 4 \cdot (-5) \cdot 30$

$\Delta = 25 + 600$

$\Delta = 625$

$x = \frac{-(-5) \pm \sqrt{625}}{2 \cdot (-5)} = \frac{5 \pm 25}{-10}$   $x_1 = -3$   
 $x_2 = 2$

DATA / FECHA / DATE

S	T	Q	Q	S	S	D
L/M	M/T	M/W	J/T	V/F	S/S	D/S

07.  $\begin{vmatrix} 1 & 0 & 0 & 0 & 0 \\ 2 & 2 & 0 & 0 & 0 \\ 3 & 2 & 1 & 0 & 0 \\ 4 & 2 & 3 & -2 & 0 \\ 5 & 1 & 2 & 3 & 3 \end{vmatrix}$   $= 1 \cdot 2 \cdot 1 \cdot (-2) \cdot 3 = -12$   $\text{Letra D}$