

Lista de exercícios

$$1. \begin{pmatrix} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{pmatrix} = -18 \quad \begin{array}{c|cc} p & 2 & 2 \\ p & 4 & 4 \\ p & 4 & 1 \end{array} \quad \begin{array}{c|c} 8p & 16p & 2p = 26p \\ p & 2 \\ p & 4 & = -18 \\ p & 4 \end{array}$$

$$4p \quad 8p \quad 8p = 20p$$

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

$$20p - 26p = -18$$

$$-6p = -18$$

$$p = -18 / -6$$

$$p = 3$$

$$-12 \quad -24 \quad -3 = -39$$

$$\begin{array}{ccc|ccc} 3 & -1 & 2 & 3 & -1 & \\ 3 & -2 & 4 & 3 & -2 & \\ 3 & -2 & 1 & 3 & -2 & \end{array}$$

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

$$\det = -30 + 39$$

$$-6 \quad -12 \quad -12 = -30$$

$$\det = 9 //$$

alternativa (E) //

$$\begin{aligned} 2. \det(2A) &= x_1^n \cdot \det A \\ &= 2^4 \cdot -6 \\ &= 16 \cdot -6 \\ &= -96 \end{aligned}$$

$$\det(2A) = x_1 - 97$$

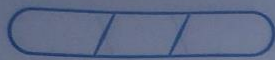
$$-96 = x_1 - 97$$

$$x_1 = 97 - 96$$

$$x_1 = 1 //$$

alternativa (C) //

3.



				0	4k	-2k
4.	2	1	0	2	1	
	k	k	k	k	k	= 10
	1	2	-2	1	2	
				-4k	k	0

$$-4k + k + 0 - (0 + 4k - 2k) = 10$$

$$-3k - 4k + 2k = 10$$

$$-5k = 10$$

$$k = 10 / -5$$

$$k = k = -2$$

				0	-12	-4		-4 - 3 + 0 - (0 - 12 - 4)
	2	1	0	2	1			-7 - (-16)
	2	1	-3	2	1			-7 + 16
	1	2	-2	1	2			9
				-4	-3	0		det = 9 //

alternativa (c) //

5.	1	-11	6		$1 + (-2) = -3$	$-11 + 4 = -7$	$6 + (-3) = 3$
	-2	4	-3				
	-3	-7	2				

3ª linha

alternativa (D) uma fila como combinação

linear das outras duas filas paralelas //

$$\begin{array}{c|ccc|ccc}
 & & & 2x^2 & -12 & 9x & & \\
 6. & 1 & x & x^2 & 1 & x & & (2x^2 - 12 + 9x) - (18 + 4x - 3x^2) \\
 & 1 & 2 & 4 & 1 & 2 & & 5x^2 + 5x - 30 = 0 \\
 & 1 & -3 & 9 & 1 & -3 & & x^2 + x - 6 = 0
 \end{array}$$

$$x = \frac{-1 \pm \sqrt{25}}{2 \cdot 1}$$

$$\Delta = 1^2 - 4 \cdot 1 \cdot -6$$

$$\Delta = 1 + 24$$

$$x = \frac{-1 \pm 5}{2}$$

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

$$\Delta = 25$$

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

$$x_1 = \{-3, 2\} //$$

$$\begin{array}{c|ccccc}
 7. & 1 & 0 & 0 & 0 & 0 \\
 & 2 & 2 & 0 & 0 & 0 \\
 & 3 & 2 & 1 & 0 & 0 \\
 & 4 & 2 & 3 & -2 & 0 \\
 & 5 & 1 & 2 & 3 & 3
 \end{array}$$

$$\det = a_{11} \cdot a_{22} \cdot a_{33} \cdot a_{44} \cdot a_{55}$$

$$\det = 1 \cdot 2 \cdot 1 \cdot -2 \cdot 3$$

$$\det = -12 //$$

$$\text{alternativa (D)} //$$