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Tarefa básica.

1-

$$A = \begin{vmatrix} 1 & 4 & 0 \\ 0 & 1 & 1 \\ 0 & -1 & 1 \end{vmatrix} \quad \begin{matrix} 1 & 4 \\ 0 & 1 \\ 0 & -1 \end{matrix} \quad \begin{matrix} 0 & -1 & 0 \\ 1 & 0 & 0 \end{matrix}$$

$det = 1 - (-1)$ $\quad \underline{detA = 2}$

$$B = \begin{vmatrix} 1 & 0 & 0 & 3 \\ 4 & 1 & -1 & 4 \\ 0 & 0 & 0 & 3 \\ 0 & 1 & 1 & 4 \end{vmatrix}$$

~~$0 \cdot cof(B_{12})$~~ $\quad 1 \cdot cof(B_{22})$ $\quad$ ~~$0 \cdot cof(B_{32})$~~ $\quad 1 \cdot cof(B_{42})$

$$\begin{vmatrix} 1 & 0 & 3 \\ 0 & 0 & 3 \\ 0 & 1 & 4 \end{vmatrix} \quad \begin{matrix} 1 & 0 \\ 0 & 0 \\ 0 & 1 \end{matrix} \quad \begin{matrix} 0 & 3 & 0 \\ 0 & 0 & 0 \end{matrix}$$

$$\begin{vmatrix} 1 & 0 & 3 \\ 4 & -1 & 4 \\ 0 & 0 & 3 \end{vmatrix} \quad \begin{matrix} 1 & 0 \\ 4 & -1 \\ 0 & 0 \end{matrix} \quad \begin{matrix} 0 & 0 & 0 \\ -3 & 0 & 0 \end{matrix}$$

$0 - 3 = -3$ $\qquad -3 - 0 = -3$

$-3 + (-3) = -6$ $\qquad \underline{detB = -6}$

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S T Q Q S S D

2.

x^2	0	x	$-\frac{1}{10}$	
7,5	0	5	2	= 0
10	0	4	2	
1	1	1	1	

0. cof(A_{12}) 0. cof(A_{22}) 0. cof(A_{32}) 1. cof(A_{42})

x^2	x	$-\frac{1}{10}$
7,5	5	2
10	4	2

x^2	x
7,5	5
10	4

$50.\left(\frac{-1}{10}\right) + 8x^2 + 15x$

$10x^2 + 20x + 30.\left(\frac{-1}{10}\right)$

$10x^2 + 20x - 3 - (-5 + 8x^2 + 15x) = 0$

$10x^2 + 20x - 3 + 5 - 8x^2 - 15x = 0$

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

$\Delta = b^2 - 4AC$

$\Delta = 25 - 16$

$\Delta = 9$

$x = \frac{-b \pm \sqrt{\Delta}}{2A}$

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

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

$x = -2$ ou $x = \frac{-1}{2}$

spiral

3-

x	0	0	3
-1	x	0	0
0	-1	x	1
0	0	-1	-2

0. Cof(A12) x. Cof(A22) -1. Cof(A32) 0. Cof(A42)

x	0	3	x	0
0	x	1	0	x
0	-1	-2	0	-1

$2x^2$ 0 0

0 -x 0

x	0	3	x	0
-1	0	0	-1	0
0	-1	-2	0	-1

0 0 3

$-2x^2-(-x)=$

$-2x^2+x=$

$x(-2x^2+x)=$

$-2x^3+x^2$

(A)

$3-0=3$

$-1.(-3)$

3

$-2x^3+x^2+3$

4)

x	1	0	0	0
0	x	1	0	0
0	0	x	1	0
0	0	0	x	k
0	0	0	1	x

▷ x. Cof(Am)

$0+kx+0=kx$

x	1	0	x	1
0	x	k	0	x
0	1	x	0	1

$x^3+0+0=x^3$

x. Cof(Am)

x	1	0	0
0	x	1	0
0	0	x	k
0	0	1	x

$x.(x^3-kx)=$

x^4-x^2k

▷ $x.(x^4-x^2k)=x^5-x^3k$

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S T Q Q S S D

$f(-2) = 8$

$\phi(x) = \text{Det}A \rightarrow f(x) = x^5 - x^3 k$

$f(-2) = (-2)^5 - (-2)^3 \cdot k = 8$

$f(-2) = -32 + 8k = 8$

$-32 + 8k = 8$

$8k = 40$

$k = \frac{40}{8}$

$k = 5$

(D)