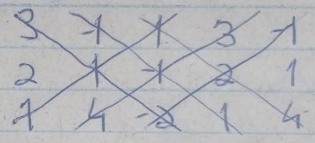
Tarefa básica

1- a) $\begin{vmatrix} 2 & 3 \\ 1 & 5 \end{vmatrix} = 2.5 - 1.3 = 10 - 3 = 7$ //

b) $\begin{vmatrix} -2 & -4 \\ 3 & 6 \end{vmatrix} = -2.6 - 3.-4 = -12 - (-12) = 0$ //

c) $\begin{vmatrix} 3 & -1 & 1 \\ 2 & 1 & -1 \\ 1 & 4 & -2 \end{vmatrix} =$  $= 3 - (-7) = 10$ //

| | |
|---|---|
| $3.1.-2 = -6$ | $1.1.1 = 1$ |
| $-1.-1.1 = 1$ | $4.-1.3 = -12$ |
| $1.2.4 = 8$ | $-2.2.-1 = 4$ |
| $-6+1+8 = 3$ | $1-12+4 = -7$ |

data

d) $\begin{vmatrix} 3 & 2 & -1 \\ 2 & 3 & 1 \\ 1 & 1 & 4 \end{vmatrix}$ = 3 2 -1 3 2 / 2 3 1 2 3 / 1 1 4 1 1 = 36 - 16 = 20,,

$3 \cdot 3 \cdot 4 = 36$ | $1 \cdot 3 \cdot -1 = -3$

$2 \cdot 1 \cdot 1 = 2$ | $1 \cdot 1 \cdot 3 = 3$

$-1 \cdot 2 \cdot 1 = -2$ | $4 \cdot 2 \cdot 2 = 16$

$36 + 2 - 2 = 36$ | $-3 + 3 + 16 = 16$

2) $A = \begin{vmatrix} -3 & 0 & 0 \\ 0 & -3 & 0 \\ 0 & 0 & -3 \end{vmatrix} = -27$ letra (A)

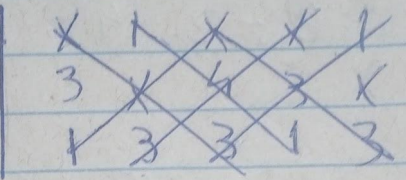
$-3 \cdot -3 \cdot 3 = -27$

$0 \cdot 0 \cdot 0 = 0$

$0 \cdot 0 \cdot 0 = 0$

$-27 + 0 + 0 = -27$

3) $\begin{vmatrix} x & 1 & x \\ 3 & x & 4 \\ 1 & 3 & 3 \end{vmatrix} = -3$



$x \cdot x \cdot 3 = 3x^2$ | $1 \cdot x \cdot x = x^2$

$1 \cdot 4 \cdot 1 = 4$ | $3 \cdot 4 \cdot x = 12x$

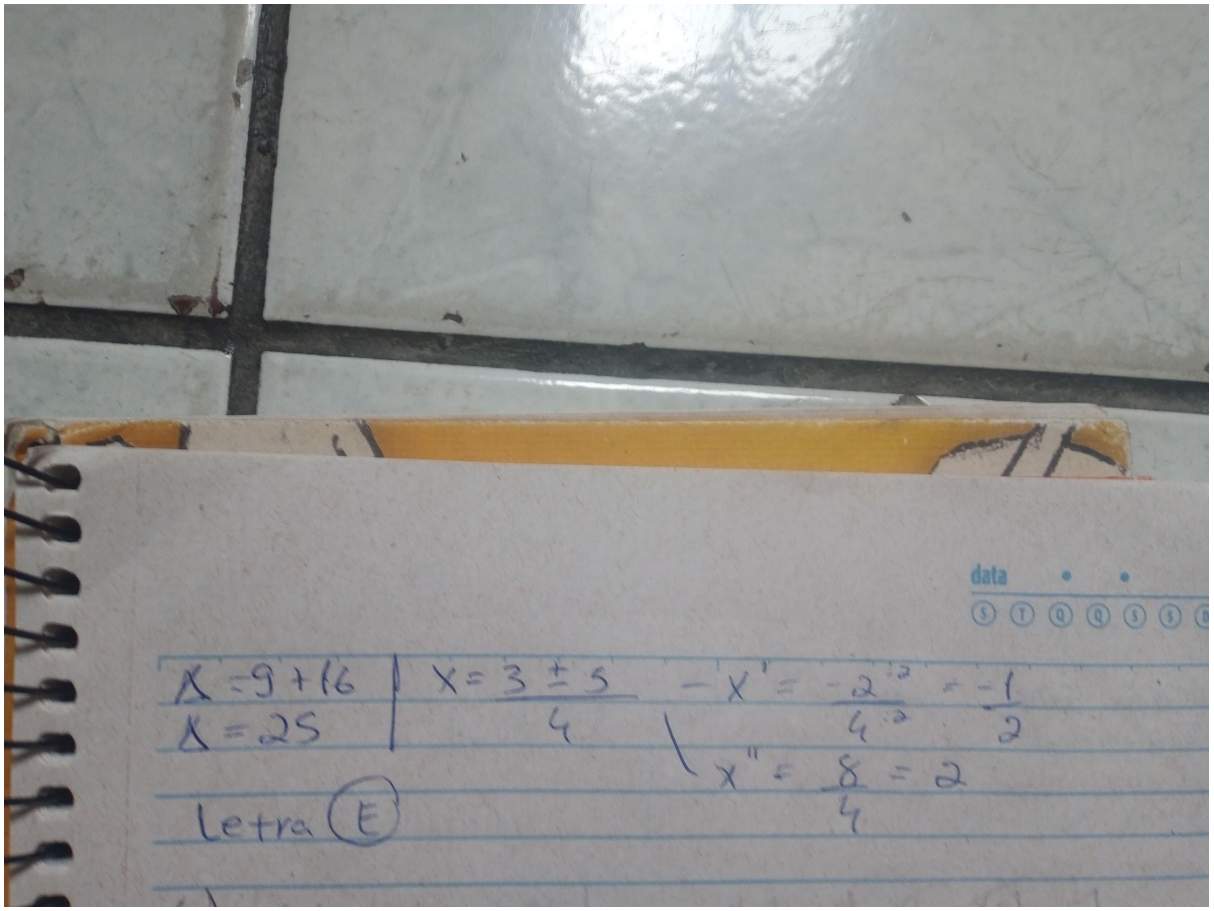
$x \cdot 3 \cdot 3 = 9x$ | $3 \cdot 3 \cdot 1 = 9$

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

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

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

$\Delta = (-3)^2 - 4 \cdot 2 \cdot -2$



$\Delta = 9 + 16$

$\Delta = 25$

$x = \frac{3 \pm 5}{4}$

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

$x'' = \frac{8}{4} = 2$

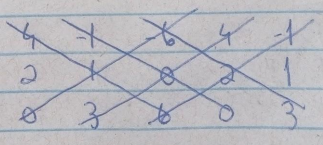
Letra (E)

5) $A = \begin{pmatrix} -1 & -4 \\ 1 & -2 \\ 3 & 0 \end{pmatrix}$ e $B = \begin{pmatrix} 0 & 1 & 2 \\ -1 & 0 & 1 \end{pmatrix}$

$a_{11} = 2 - 3 = -1$
$a_{12} = 2 - 6 = -4$
$a_{21} = 4 - 3 = 1$
$a_{22} = 4 - 6 = -2$
$a_{31} = 6 - 3 = 3$
$a_{32} = 6 - 6 = 0$

$a_{11} = 1 - 1 = 0$
$a_{12} = 2 - 1 = 1$
$a_{13} = 3 - 1 = 2$
$a_{21} = 1 - 2 = -1$
$a_{22} = 2 - 2 = 0$
$a_{23} = 3 - 2 = 1$

| | | |
|---|---|---|
| $0 + 4 = 4$ | $0 + 2 = 2$ | $0 + 0 = 0$ |
| $-1 + 0 = -1$ | $1 + 0 = 1$ | $3 + 0 = 3$ |
| $-2 + (-4) = -6$ | $2 + (-2) = 0$ | $6 + 0 = 6$ |

$AB = \begin{pmatrix} 4 & -1 & -6 \\ 2 & 1 & 0 \\ 0 & 3 & 6 \end{pmatrix}$ = 

data

| | | |
|---|---|---|
| $4 \cdot 1 \cdot 6 = 24$ | $6 \cdot 2 \cdot -1 = -12$ | $-12 - (-12) = 0$ |
| $-6 \cdot 2 \cdot 3 = -36$ | | |
| $24 + (-36) = -12$ | | Letra (C) |

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

| | |
|---|---|
| $2+0+0=2$ | $-1+-1+0=-2$ |
| $-2+0+-2=-4$ | $1+1+0=2$ |

$AB = \begin{pmatrix} 2 & -4 \\ -2 & 2 \end{pmatrix}$ $2 \cdot 2 - -2 \cdot -4 = -4$

Letra (D)