$\Delta = 25 - 4.1.6$

$\Delta = 25 - 24$

$\Delta = 1$

Letra A

$x \neq \frac{5 \pm \sqrt{1}}{2}$ — ' $\neq (5+1)/2 \neq 6/2 \neq 3$ //

— " $\neq (5-1)/2 \neq 4/2 \neq 2$ //

$\{x \neq 3 \text{ e } x \neq 2\}$

6) $(X.A)^t = B$

$((X.A)^t)^t = B$

$X.A = B^t$

$X.A.A^{-1} = B^t.A^{-1}$

$X = B^t.A^{-1}$

Letra B

7) $A.\begin{vmatrix} x \\ y \end{vmatrix} = \begin{vmatrix} 4x + 5y \\ 5x + 6y \end{vmatrix}$

$A = \begin{vmatrix} 4 & 5 \\ 5 & 6 \end{vmatrix} = 24 - 25 = -1$

Letra D

$A^{-1} = \begin{vmatrix} 6 & -5 \\ -5 & 4 \end{vmatrix} / -1 = \begin{vmatrix} -6 & 5 \\ 5 & -4 \end{vmatrix}$

9) a) $(A+B).(A-B) = A^2 - AB + BA - B^2$

b) $(A+B)^2 = A^2 + 2AB + B^2$ ~~$(-AB = A)$~~ $AB = BA$

c) $\det(A) = \det(-A) = (-1)^2.\det A = \det A$

$\det(-A)$

$\frac{\det A}{\det -A} = 1$

d) $B = A^{-1} \Rightarrow \det A.\det B = 1$

$\det B = \frac{1}{\det A}$

Tarefa básica

1) $\begin{vmatrix} 3 & -1 \\ y & 2 \end{vmatrix} . \begin{vmatrix} x & 1 \\ 5 & 3 \end{vmatrix} = \begin{vmatrix} 1 & 0 \\ 0 & 1 \end{vmatrix}$

Letra C

$3x - 5 = 1$

$xy + 10 = 0$

$3x - 5 = 1$

$3x = 1 + 5$

$3x = 6$

$x = 6/3 = 2$

$xy + 10 = 0$

$2y + 10 = 0$

$2y = -10$

$y = -10/2 = -5$

$x + y = 2 + (-5)$

$2 - 5 = -3$

2) $\det A = \begin{vmatrix} 1 & 0 & 1 & 1 & 0 \\ K & 1 & 3 & K & 1 \\ 1 & K & 3 & 1 & K \end{vmatrix}$

Letra C

$K^2 + 3 - (3K + 1)$

$K^2 + 3 - 3K - 1$

$K^2 - 3K + 2 = 0$

$\Delta = 9 - 4.1.2$

$\Delta = 9 - 8$

$\Delta = 1$

$K = \frac{3 \pm \sqrt{1}}{2}$ — ' $(3+1)/2 = 4/2 = 2$ //

— " $(3-1)/2 = 2/2 = 1$ //

3) $A = \begin{vmatrix} 3 & 5 \\ 2 & 4 \end{vmatrix}$ $B = \begin{vmatrix} 4 & -5 \\ -2 & 3 \end{vmatrix} \rightarrow /2 \rightarrow \begin{vmatrix} 2 & -5/2 \\ -1 & 3/2 \end{vmatrix}$

Letra C

4) $\begin{vmatrix} x & 1 & 2 & x & 1 \\ 3 & 1 & 2 & 3 & 1 \\ 10 & 1 & x & 10 & 1 \end{vmatrix}$

$x^2 + 26 - (20 + 5x)$

$x^2 + 26 - 20 - 5x$

$x^2 - 5x + 6 \neq 0$