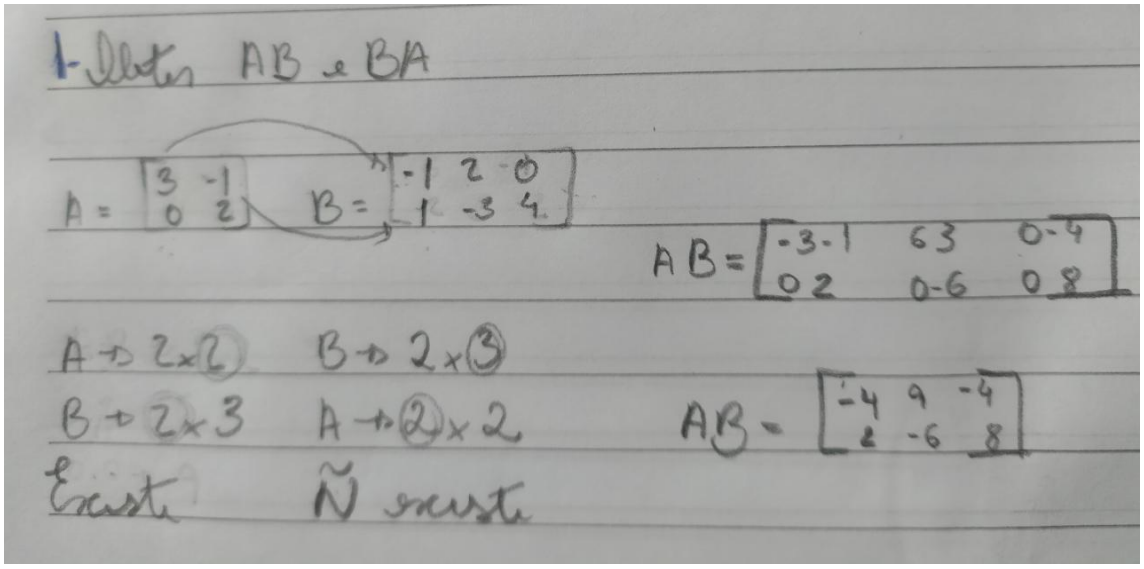
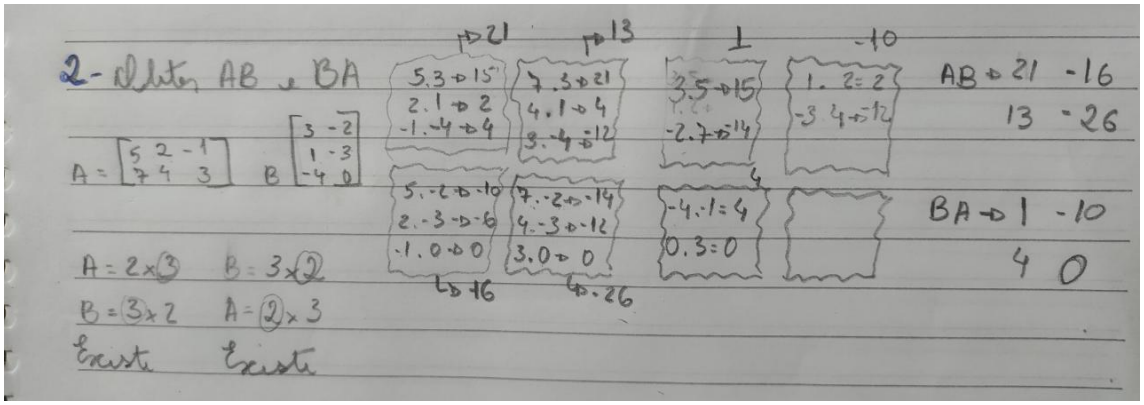
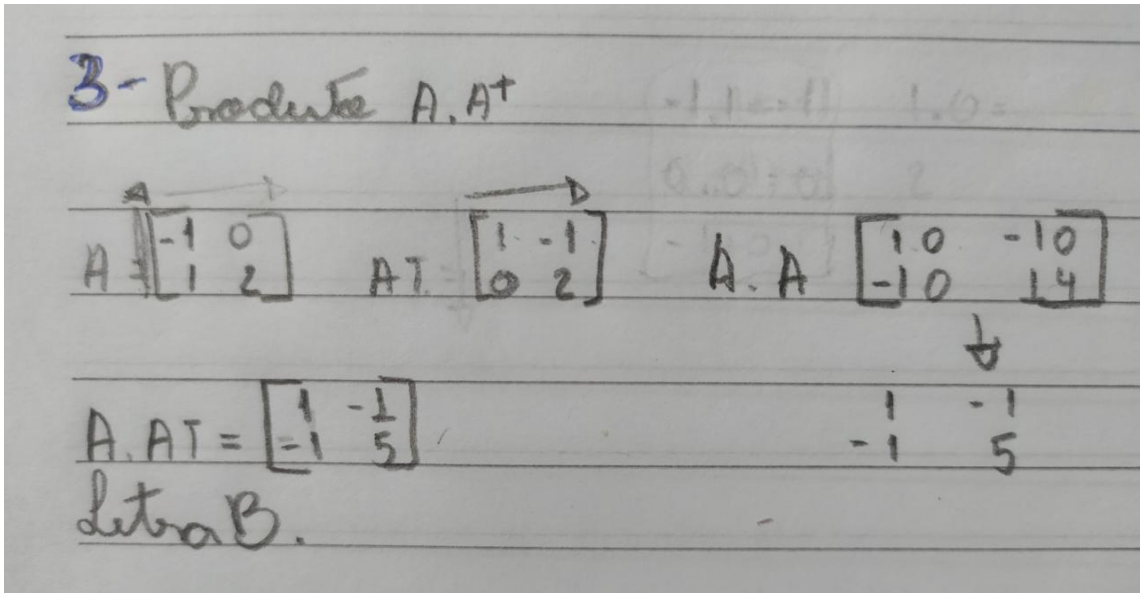
Exercícios


1- Obter AB e BA
A = [3 -1 / 0 2]
B = [-1 2 0 / 1 -3 4]
AB = [-3-1 6 3 0-4 / 0 2 0-6 0 8]
A → 2x2 B → 2x3
B → 2x3 A → 2x2
Existe Ñ existe
AB = [-4 9 -4 / 2 -6 8]


2- Obter AB e BA
A = [5 2 -1 / 7 4 3]
B [3 -2 / 1 -3 / -4 0]
A = 2x3 B = 3x2
B = 3x2 A = 2x3
Existe Existe
AB → 21 -16
13 -26
BA → 1 -10
4 0


3- Produto A.A^T
A = [-1 0 / 1 2]
AT = [1 -1 / 0 2]
A.A [1 0 -1 0 / -1 0 1 4]
A.AT = [1 -1 / -1 5]
1 -1
-1 5
Letra B.

4- Elemento da matriz $C = A \cdot B$

$A \rightarrow 2 \times 3$ $\quad A = \begin{bmatrix} 1 & 2 & 5 \\ 3 & 4 & 6 \end{bmatrix}$ $\quad B = \begin{bmatrix} 1 \\ 2 \\ 3 \end{bmatrix}$ $\quad C = \begin{bmatrix} 1 & 4 & 15 \\ 9 & 8 & 12 \end{bmatrix} \rightarrow \begin{bmatrix} 20 \\ 29 \end{bmatrix}$

$B \rightarrow 3.1$

Resposta letra A. Elemento $C_{21} \rightarrow 29$.

5- a) $\begin{bmatrix} 25 & 50 & 200 & 20 \\ 28 & 60 & 150 & 22 \end{bmatrix}$ R1 R2

Ps. fornecedor 1 é mais barato e o restaurante 1 gasta menos no total.

$\begin{bmatrix} 1.00 & 1.00 \\ 8.00 & 10.00 \\ 0.80 & 0.80 \\ 1,50 & 1.00 \end{bmatrix} \rightarrow \begin{matrix} R \\ \\ \\ \\ F \end{matrix} \begin{bmatrix} 635 & 705 \\ 676 & 770 \end{bmatrix}$

F1 F2

b) $\begin{bmatrix} 25 & 50 & 200 & 20 \\ 28 & 60 & 150 & 22 \end{bmatrix} \cdot \begin{bmatrix} 1 & 1 \\ 8 & 10 \\ 0,8 & 0,8 \\ 1,5 & 1 \end{bmatrix} \rightarrow \begin{bmatrix} 25 & 400 & 180 & 30 & 25 & 500 & 160 & 30 \\ 28 & 480 & 135 & 33 & 28 & 660 & 129 & 22 \end{bmatrix}$

Restaurante 1 → R$ 70,00 (lucro) → 164 (lucro total)

Restaurante 2 → R$ 94,00 (lucro)

6- $\begin{bmatrix} 0 & 1 \\ \alpha & 1 \end{bmatrix} \cdot \begin{bmatrix} \alpha & 1 \\ -1 & 0 \end{bmatrix} \rightarrow \begin{bmatrix} 1 & 0 \\ 0 & 1 \end{bmatrix}$ $\quad \alpha \cdot 0 = 1$

Resposta: letra E $\quad \alpha = 1$