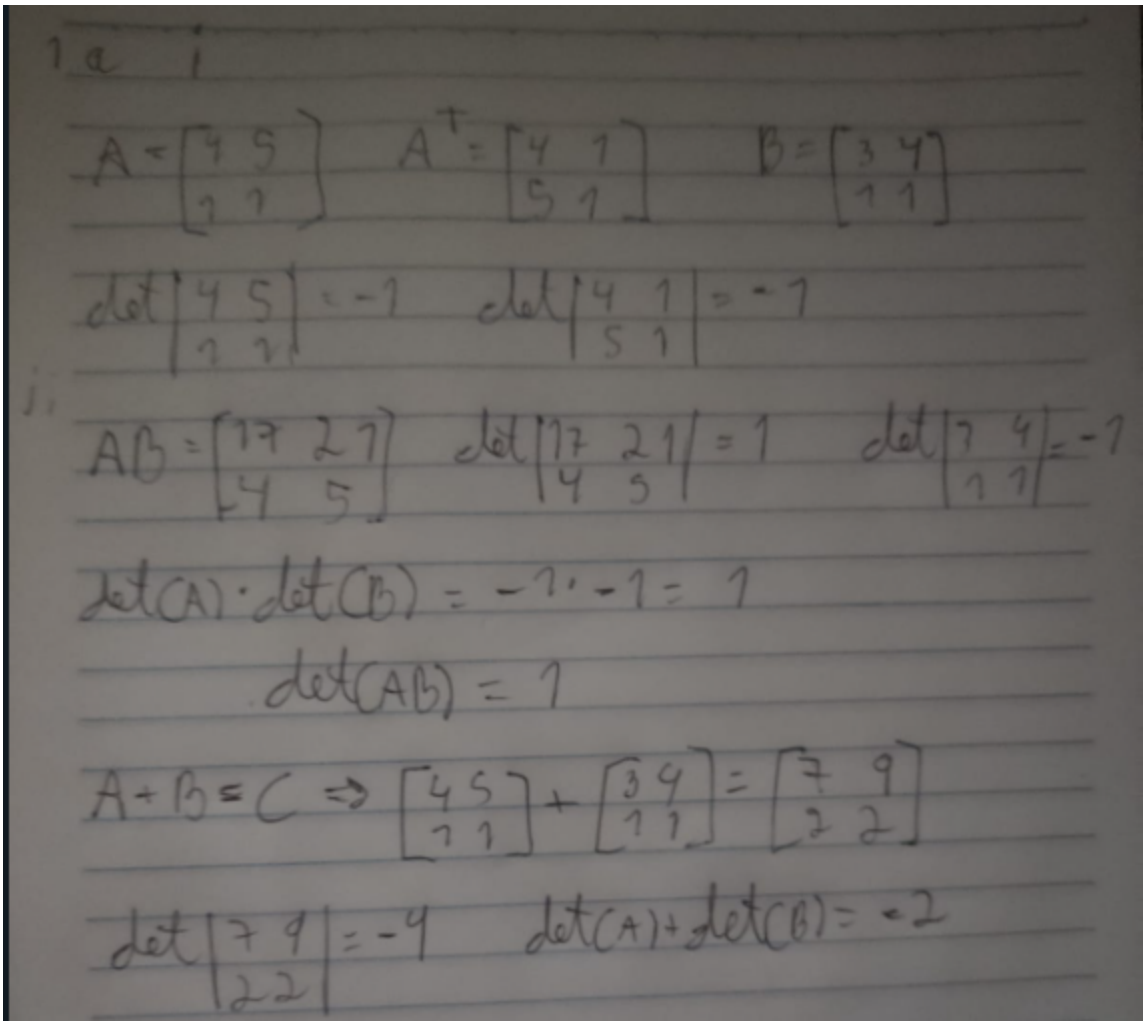
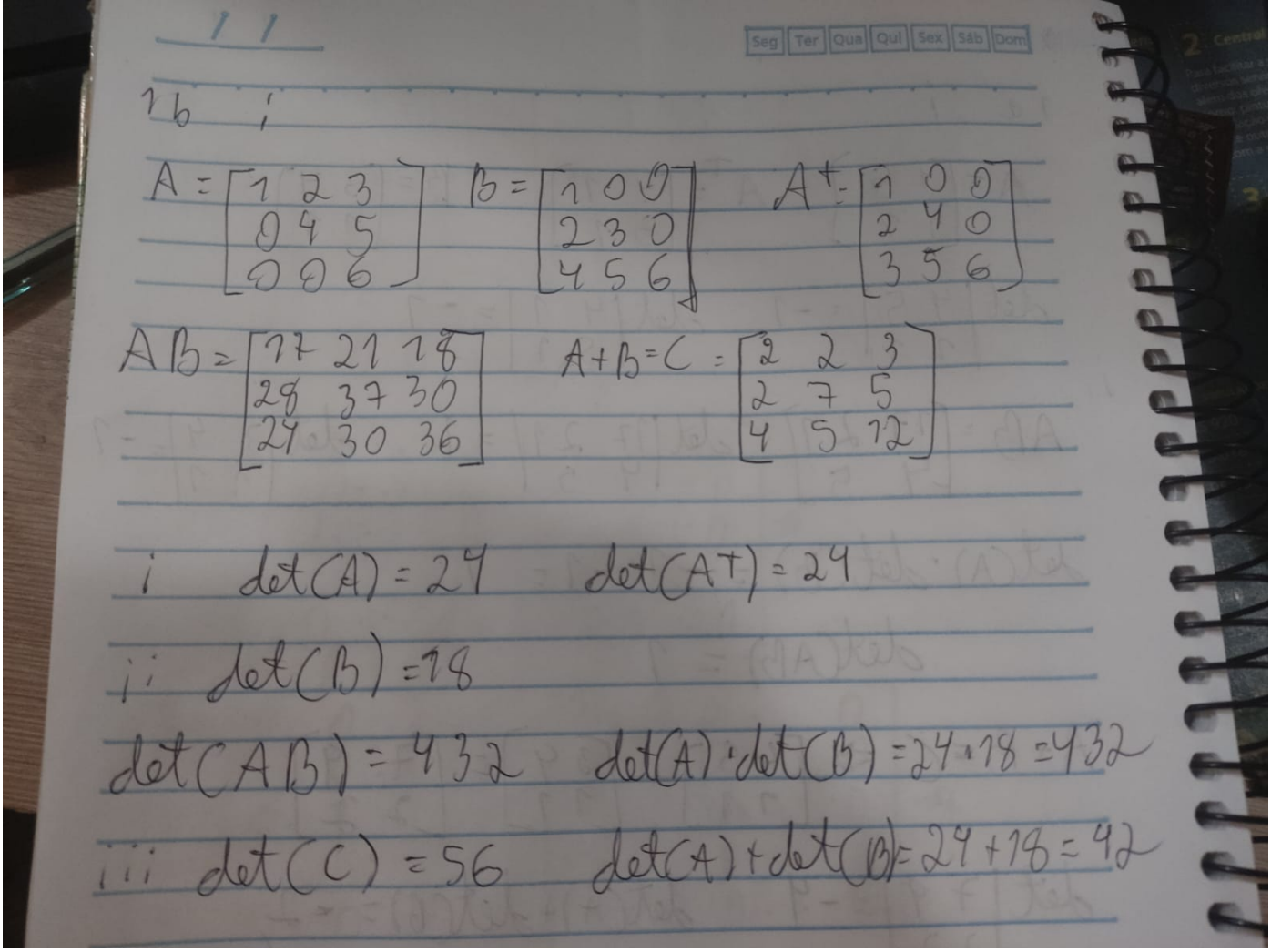
1. (Simon & Blume - Exercício 9.14) Para os seguintes pares de matrizes, verifique que (i) $\det(A^T) = \det(A)$; (ii)$\det(A \cdot B) = \det(A)\det(B)$; e (iii) $\det(A + B) \neq \det(A) + \det(B)$ em geral.

   (a) $A = \begin{bmatrix} 4 & 5 \\ 1 & 1 \end{bmatrix}$, $B = \begin{bmatrix} 3 & 4 \\ 1 & 1 \end{bmatrix}$



   (b) $A = \begin{bmatrix} 1 & 2 & 3 \\ 0 & 4 & 5 \\ 0 & 0 & 6 \end{bmatrix}$, $B = \begin{bmatrix} 1 & 0 & 0 \\ 2 & 3 & 0 \\ 4 & 5 & 6 \end{bmatrix}$


11
Seg Ter Qua Qui Sex Sáb Dom
1b i
A = [1 2 3; 0 4 5; 0 0 6]
B = [1 0 0; 2 3 0; 4 5 6]
A^T = [1 0 0; 2 4 0; 3 5 6]
AB = [17 21 18; 28 37 30; 24 30 36]
A+B=C = [2 2 3; 2 7 5; 4 5 12]
i det(A) = 24 det(A^T) = 24
ii det(B) = 18
det(AB) = 432 det(A)·det(B) = 24·18 = 432
iii det(C) = 56 det(A)+det(B) = 24+18 = 42

In [ ]: