



MTM3111 e MTM5512 - Geometria Analítica

Gabarito da Lista de exercícios 1.3

Determinantes e propriedades

Última atualização: 2 de fevereiro de 2021

1.

(a) $\det(A) = 3$.

(b) $\det(B) = -11$.

(c) $\det(C) = -27$.

(d) $\det(D) = -15$.

(e) $\det(E) = -8$.

2.

(a) $A_1 = \begin{bmatrix} 1 & 3 & 5 & 7 \\ 0 & -7 & -14 & -21 \\ 4 & 3 & 0 & 2 \\ 1 & 3 & 5 & -2 \end{bmatrix}$.

(b) $A_2 = \begin{bmatrix} 1 & 3 & 5 & 7 \\ 0 & -7 & -14 & -21 \\ 0 & -9 & -20 & -26 \\ 1 & 3 & 5 & -2 \end{bmatrix}$.

(c) $A_3 = \begin{bmatrix} 1 & 3 & 5 & 7 \\ 0 & -7 & -14 & -21 \\ 0 & -9 & -20 & -26 \\ 0 & 0 & 0 & -9 \end{bmatrix}$.

(d) $A_4 = \begin{bmatrix} 1 & 3 & 5 & 7 \\ 0 & 1 & 2 & 3 \\ 0 & -9 & -20 & -26 \\ 0 & 0 & 0 & -9 \end{bmatrix}$.

(e) $A_5 = \begin{bmatrix} 1 & 3 & 5 & 7 \\ 0 & 1 & 2 & 3 \\ 0 & 0 & -2 & 1 \\ 0 & 0 & 0 & -9 \end{bmatrix}$.

(f) $\det(A_5) = \det(A_4) = 1 \cdot 1 \cdot (-2) \cdot (-9) = 18$ e $\det(A) = \det(A_1) = \det(A_2) = \det(A_3) = -7 \cdot \det(A_4) = -7 \cdot 18 = -126$.

3.

(a) -3 .

(b) 3 .

(c) 0 .

(d) 6 .

(e) -6 .

(f) -12 .