

系級：_____ 學號：_____ 姓名：_____

1. $A = \begin{bmatrix} 5 & 5 & -2 \\ -5 & -3 & 2 \\ 4 & 8 & -4 \end{bmatrix}$, 試問: (1) $\det(A) = ?$ (2) $A^{-1} = ?$

2. $A = \begin{bmatrix} 1 & -2 & -1 & 4 \\ -4 & 1 & 4 & 1 \\ 2 & -2 & 1 & 1 \\ -2 & 4 & -2 & 3 \end{bmatrix}$, 試問: (1) $\det(A) = ?$ (2) $A^{-1} = ?$

參考解答:

1. (1) $\det(A) = -24$

(2) $A^{-1} = \begin{bmatrix} \frac{1}{6} & -\frac{1}{6} & -\frac{1}{6} \\ \frac{1}{2} & \frac{1}{2} & 0 \\ \frac{7}{6} & \frac{5}{6} & -\frac{5}{12} \end{bmatrix}$

2. (1) $\det(A) = 5$

(2) $A^{-1} = \begin{bmatrix} -7 & 4 & 15 & 3 \\ -2 & 1 & 4 & 1 \\ \frac{26}{5} & -\frac{22}{5} & -\frac{77}{5} & -3 \\ \frac{14}{5} & -\frac{8}{5} & -\frac{28}{5} & -1 \end{bmatrix}$