

系級：\_\_\_\_\_ 學號：\_\_\_\_\_ 姓名：\_\_\_\_\_

$$1. A = \begin{bmatrix} 3 & 2 & 5 \\ 4 & 1 & 5 \\ 7 & 6 & 5 \end{bmatrix}$$

(1) 試求  $\det(A) = ?$

(2) 試求  $A^{-1} = ?$

$$2. A = \begin{bmatrix} 1 & 2 & 5 & 5 \\ 0 & 4 & 3 & 9 \\ 4 & 4 & 1 & 5 \\ 2 & 3 & 2 & 5 \end{bmatrix}$$

(1) 試求  $\det(A) = ?$

(2) 試求  $A^{-1} = ?$

**參考解答：**

1. (1)  $\det(A) = 40$

$$(2) A^{-1} = \begin{bmatrix} -\frac{5}{8} & \frac{1}{2} & \frac{1}{8} \\ \frac{3}{8} & -\frac{1}{2} & \frac{1}{8} \\ \frac{17}{40} & -\frac{1}{10} & -\frac{1}{8} \end{bmatrix}$$

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

$$(2) A^{-1} = \begin{bmatrix} 5 & 5 & 12 & -26 \\ -12 & -\frac{25}{2} & -\frac{57}{2} & 63 \\ -2 & -\frac{5}{2} & -\frac{11}{2} & 12 \\ 6 & \frac{13}{2} & \frac{29}{2} & -32 \end{bmatrix}$$