

Solve the given matrix equation for  $\mathbf{X}$ :  $\begin{bmatrix} 1 & 2 & 3 \\ 3 & 7 & 6 \\ 1 & 0 & 8 \end{bmatrix} \mathbf{X} = \begin{bmatrix} 1 & 4 \\ 0 & -1 \\ -3 & 6 \end{bmatrix}$ . [104 中正資工 2]

$$[\text{解}] \mathbf{X} = \begin{bmatrix} 1 & 2 & 3 \\ 3 & 7 & 6 \\ 1 & 0 & 8 \end{bmatrix}^{-1} \begin{bmatrix} 1 & 4 \\ 0 & -1 \\ -3 & 6 \end{bmatrix} = \frac{1}{-1} \begin{bmatrix} 56 & -16 & -9 \\ -18 & 5 & 3 \\ -7 & 2 & 1 \end{bmatrix} \begin{bmatrix} 1 & 4 \\ 0 & -1 \\ -3 & 6 \end{bmatrix} = \begin{bmatrix} -83 & -186 \\ 27 & 59 \\ 10 & 24 \end{bmatrix}$$



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