

- 3 (i) Given that $\mathbf{A} = \begin{pmatrix} 2 & 1 \\ -2 & 5 \end{pmatrix}$, find the inverse of the matrix $\mathbf{A} + \mathbf{I}$, where \mathbf{I} is the identity matrix. [3]

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- (ii) Hence, or otherwise, find the matrix \mathbf{X} such that $\mathbf{AX} + \mathbf{X} = \mathbf{B}$, where $\mathbf{B} = \begin{pmatrix} 14 \\ 4 \end{pmatrix}$. [2]