3. $\mathbf{M} = \begin{pmatrix} k & k \\ 3 & 5 \end{pmatrix}$ where k is a non-zero constant

(a) Determine $\mathbf{M}^{-1}$, giving your answer in simplest form in terms of k.

(2)

Hence, given that $\mathbf{N}^{-1} = \begin{pmatrix} k & k \\ 4 & -1 \end{pmatrix}$

(b) determine $(\mathbf{MN})^{-1}$, giving your answer in simplest form in terms of k.

(2)

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Question 3 continued

(Total for Question 3 is 4 marks)

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