4 $\mathbf{A} = \begin{pmatrix} 4 & 3 \\ -7 & 5 \end{pmatrix}$ $\mathbf{B} = \begin{pmatrix} 11 & -3 \\ 10 & -5 \end{pmatrix}$ $\mathbf{C} = \begin{pmatrix} 5 & 6 \\ -7 & 2 \\ 4 & -1 \end{pmatrix}$

(a) Find $\mathbf{D}$ such that $2\mathbf{A} - \mathbf{B} = 3\mathbf{D}$

(3)

(b) Find $\mathbf{A}^2$

(2)

(c) Find $\mathbf{B}^{-1}$

(2)

(d) Find $\mathbf{CA}$

(2)

$$\left[\textbf{Inverse of matrix } \begin{pmatrix} a & b \\ c & d \end{pmatrix} = \frac{1}{ad - bc} \begin{pmatrix} d & -b \\ -c & a \end{pmatrix} \right]$$

Question 4 continued

(Total for Question 4 is 9 marks)