25

$$\mathbf{A} = \begin{pmatrix} 3 & 1 \\ 5 & 2 \end{pmatrix} \quad \mathbf{B} = \begin{pmatrix} 5 & 1 \\ 5 & 4 \end{pmatrix} \quad \mathbf{C} = \begin{pmatrix} 2 & -1 \\ -5 & 3 \end{pmatrix}$$

(a) Show that **C** is the inverse of **A**

(2)

AB = **D**

(b) (i) Find **D**

$$\mathbf{D} = \begin{pmatrix} & \\ & \end{pmatrix}$$

(2)

(ii) Show that **BA** = **D**

(1)

(c) Using part (a) and part (b), show that **BC** = **CB**

(2)

(Total for Question 25 is 7 marks)