2:

$$\mathbf{P} = \begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$$

The matrix **P** represents the transformation P.

(a) Describe P fully as a single geometrical transformation.

(2)

$$\mathbf{Q} = \begin{pmatrix} 5 & 0 \\ 0 & 5 \end{pmatrix}$$

The matrix **Q** represents the transformation Q.

(b) Describe Q fully as a single geometrical transformation.

(2)

The transformation R is a reflection in the line $y = -x$

(c) Write down the matrix representing R.

(1)

The transformation R maps the point $(4, 3)$ to the point A.

(d) Determine the coordinates of A.

(1)

The transformation P followed by the transformation Q maps the point B to the point A.

(e) Determine the coordinates of B.

(2)

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Question 2 continued

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Question 2 continued

(Total for Question 2 is 8 marks)

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