IGCSE Transformations – 2

May 02 Paper 4

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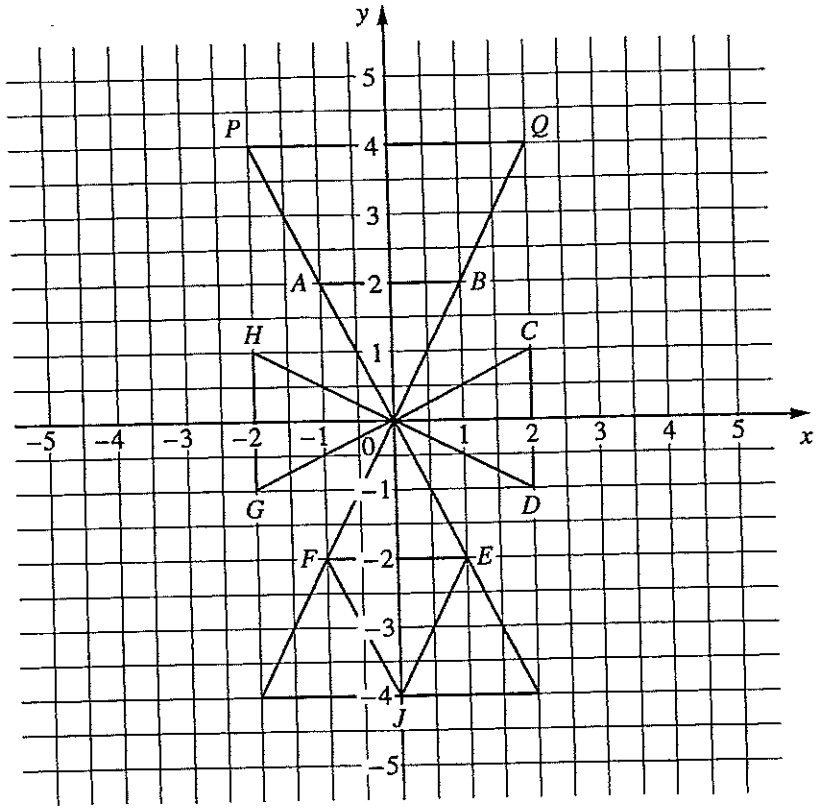

(a) Describe fully a single transformation which maps both

(i) A onto C **and** B onto D, [2]

(ii) A onto D **and** B onto C, [2]

(iii) A onto P **and** B onto Q. [3]

(b) Describe fully a single transformation which maps triangle OAB onto triangle JFE. [2]

(c) The matrix **M** is $\begin{pmatrix} 0 & -1 \\ -1 & 0 \end{pmatrix}$.

(i) Describe the transformation which **M** represents. [2]

(ii) Write down the co-ordinates of P after transformation by matrix **M**. [2]

(d) (i) Write down the matrix **R** which represents a rotation by 90° anticlockwise about O. [2]

(ii) Write down the letter representing the new position of F after the transformation **RM**(F). [2]

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6 (c) The matrix $\begin{pmatrix} 0 & 1 \\ -1 & 0 \end{pmatrix}$ represents a **single** transformation.

(i) Describe fully this transformation. [3]

(ii) Find the co-ordinates of the image of the point (5, 3) after this transformation. [1]

(d) Find the matrix which represents a reflection in the line $y = x$. [2]