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| **Reflection:** *Flip it!***To describe in full you need:*** The equation of the mirror line; *e.g. x = -2*

***Hints:**** *You are not allowed a mirror in an exam. Use folded tracing paper.*
* *If the mirror line is diagonal, turn your page to make it vertical*
 | **Rotation:** *Twist it!***To describe in full you need:*** The centre of rotation; *e.g. (4,1)*
* The angle of rotation; *e.g. 90°*
* The direction of rotation; *e.g. clockwise*

***Hints:**** *Ask for tracing paper*
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| **Translation:** *Slide it!***To describe in full you need:*** The number of squares moved up/down
* The number of squares moved left/right
* State this using a vector; e.g. $\left(\begin{matrix}7\\-3\end{matrix}\right)$

***Hints**** *Ask for tracing paper*
* *Draw the vector to check*
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| **Reflect A in the line x = -1** | **Reflect A in the line y = 3** |
| **Reflect A in the line y = x** | **Reflect A in the line x = 2** |
| **Reflect A in the line y = 3** | **Reflect A in the line y = -x** |

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| **Rotate A 90° clockwise about (2,1)** | **Rotate A 90° anticlockwise about (1,0)** |
| **Rotate A 180° about (0,0)** | **Rotate A 90° clockwise about (1,3)** |
| **Rotate A 270° clockwise about (3,2)** | **Rotate A 90° anticlockwise about (2,-1)** |

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| Translate A by the vector $\left(\begin{matrix}5\\2\end{matrix}\right)$. Label the image B.Translate A by the vector $\left(\begin{matrix}1\\4\end{matrix}\right)$. Label the image C.Translate A by the vector $\left(\begin{matrix}-5\\3\end{matrix}\right)$. Label the image D.Translate A by the vector $\left(\begin{matrix}-1\\-3\end{matrix}\right)$. Label the image E. |
| Translate A by the vector $\left(\begin{matrix}2\\6\end{matrix}\right)$. Label the image B.Translate A by the vector $\left(\begin{matrix}4\\-1\end{matrix}\right)$. Label the image C.Translate A by the vector $\left(\begin{matrix}-5\\-3\end{matrix}\right)$. Label the image D.Translate A by the vector $\left(\begin{matrix}-6\\3\end{matrix}\right)$. Label the image E. |

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