## Maths Knowledge Organiser

Reflections

| Reflection | The size does not change, but the shape is 'flipped' <br> like in a mirror. | Reflect shape C in the line $\boldsymbol{y}=\boldsymbol{x}$ |
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|  | Line $\boldsymbol{x}=?$ is a vertical line. <br> Line $\boldsymbol{y}=?$ i i a horizontal line. <br> Line $\boldsymbol{y}=\boldsymbol{x}$ is a diagonal line. |  |
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Rotations

| Rotation | The size does not change, but the shape is turned <br> around a point. <br> Use tracing paper. | Rotate Shape $\mathrm{A} 90^{\circ}$ anti-clockwise <br> about $(0,1)$ |
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| Enlargement | The shape will get bigger or smaller. Multiply each side by the scale factor. | ```Scale Factor = 3 means ' }3\mathrm{ times larger = multiply by 3' Scale Factor = 1/2 means 'half the size = divide by 2'``` |
| Finding the Centre of Enlargement | Draw straight lines through corresponding corners of the two shapes. <br> The centre of enlargement is the point where all the lines cross over. <br> Be careful with negative enlargements as the corresponding corners will be the other way around. |  |


| Describing Transformations |  |  |
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| Describing <br> Transformations | Give the following information when describing each <br> transformation: | - Translation, Vector <br> - Rotation, Direction, Angle, Centre <br> -Reflection, Equation of mirror line |
|  | Look at the number of marks in the question for a <br> hint of how many pieces of information are needed. <br> If you are asked to describe a 'transformation', you <br> need to say the name of the type of transformation <br> as well as the other details. | enlargement, |


| Translations |
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| Translation Translate means to move a shape. <br> The shape does not change size or orientation. In a column vector, the top number moves left (-) or <br> right (+) and the bottom number moves up (+) or <br> down (-) <br> Column Vector $\binom{2}{3}$ means '2 right, 3 up'  <br> $\binom{-1}{-5}$ means '1 left, 5 down'   |

