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| **F Unit 10: Transformations** | **Road Map** |
| In this unit you will learn about geometry. The aims are as follows:**LG1**: Knowledge**LG2**: Application**LG3**: Skills | Assessment Grades |  |  |
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| **Themes** | **Learning Goals/Outcomes/Content** |  |  |  |
| 10aTransformations 1: Rotations and translations | Identify congruent shapes by eye;  |  |  |  |
| Understand clockwise and anticlockwise; |  |  |  |
| Understand that rotations are specified by a centre, an angle and a direction of rotation; |  |  |  |
| Find the centre of rotation, angle and direction of rotation and describe rotations; |  |  |  |
| Describe a rotation fully using the angle, direction of turn, and centre; |  |  |  |
| Rotate a shape about the origin or any other point on a coordinate grid; |  |  |  |
| Draw the position of a shape after rotation about a centre (not on a coordinate grid);  |  |  |  |
| Identify correct rotations from a choice of diagrams; |  |  |  |
| Understand that translations are specified by a distance and direction using a vector; |  |  |  |
| Translate a given shape by a vector; |  |  |  |
| Describe and transform 2D shapes using single translations on a coordinate grid; |  |  |  |
| Use column vectors to describe translations;  |  |  |  |
| Understand that distances and angles are preserved under rotations and translations, so that any figure is congruent under either of these transformations. |  |  |  |

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| 10bTransformations 2: Reflections and enlargements  | Understand that reflections are specified by a mirror line; |  |  |  |
| Identify correct reflections from a choice of diagrams; |  |  |  |
| Understand that reflections are specified by a mirror line; |  |  |  |
| Identify the equation of a line of symmetry; |  |  |  |
| Transform 2D shapes using single reflections (including those not on coordinate grids) with vertical, horizontal and diagonal mirror lines;  |  |  |  |
| Describe reflections on a coordinate grid;  |  |  |  |
| Scale a shape on a grid (without a centre specified);  |  |  |  |
| Understand that an enlargement is specified by a centre and a scale factor;  |  |  |  |
| Enlarge a given shape using (0, 0) as the centre of enlargement, and enlarge shapes with a centre other than (0, 0); |  |  |  |
| Find the centre of enlargement by drawing;  |  |  |  |
| Describe and transform 2D shapes using enlargements by:  |  |  |  |
| a positive integer scale factor; |  |  |  |
| a fractional scale factor; |  |  |  |
| Identify the scale factor of an enlargement of a shape as the ratio of the lengths of two corresponding sides, simple integer scale factors, or simple fractions; |  |  |  |
| Understand that distances and angles are preserved under reflections, so that any figure is congruent under this transformation; |  |  |  |
| Understand that similar shapes are enlargements of each other and angles are preserved – define similar in this unit; |  |  |  |
| Describe and transform 2D shapes using combined rotations, reflections, translations, or enlargements. |  |  |  |

**Links:**

LG1: You will reflect, rotate, enlarge and translate shapes.

LG2: You will apply your knowledge of transformations to identify and describe transformations that have taken place.

LG3: You will solve complex problems such as carrying out combinations of transformations.