|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **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 |  |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
|  | |  | | | |
| **Themes** | **Learning Goals/Outcomes/Content** | | |  |  |  |
| 10a  Transformations 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. | | |  |  |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| 10b  Transformations 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.