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| **F Unit 6: Angles** | **Road Map** |
| In this unit you will learn about number. The aims are as follows:**LG1**: Knowledge**LG2**: Application**LG3**: Skills | Assessment Grades |  |  |
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| **Themes** | **Learning Goals/Outcomes/Content** |  |  |  |
| 6a Properties of shapes, parallel lines and angle facts | Estimate sizes of angles; |  |  |  |
| Measure angles using a protractor; |  |  |  |
| Use geometric language appropriately;  |  |  |  |
| Use letters to identify points, lines and angles;  |  |  |  |
| Use two-letter notation for a line and three-letter notation for an angle;  |  |  |  |
| Describe angles as turns and in degrees; |  |  |  |
| Understand clockwise and anticlockwise;  |  |  |  |
| Know that there are 360° in a full turn, 180° in a half turn and 90° in a quarter turn;  |  |  |  |
| Identify a line perpendicular to a given line;  |  |  |  |
| Mark perpendicular lines on a diagram and use their properties;  |  |  |  |
| Identify parallel lines;  |  |  |  |
| Mark parallel lines on a diagram and use their properties;  |  |  |  |
| Recall the properties and definitions of special types of quadrilaterals, including symmetry properties;  |  |  |  |
| List the properties of each special type of quadrilateral, or identify (name) a given shape;  |  |  |  |
| Draw sketches of shapes;  |  |  |  |
| Name all quadrilaterals that have a specific property;  |  |  |  |
| Identify quadrilaterals from everyday usage;  |  |  |  |
| Given some information about a shape on coordinate axes, complete the shape; |  |  |  |
| Classify quadrilaterals by their geometric properties;  |  |  |  |
| Understand and use the angle properties of quadrilaterals;  |  |  |  |
| Use the fact that angle sum of a quadrilateral is 360°; |  |  |  |
| Use geometrical language appropriately and give reasons for angle calculations; |  |  |  |
| Recall and use properties of angles at a point, angles at a point on a straight line, right angles, and vertically opposite angles;  |  |  |  |
| Distinguish between scalene, equilateral, isosceles and right-angled triangles; |  |  |  |
| Derive and use the sum of angles in a triangle;  |  |  |  |
| Find a missing angle in a triangle, using the angle sum of a triangle is 180°;  |  |  |  |
| Understand and use the angle properties of triangles, use the symmetry property of isosceles triangle to show that base angles are equal; |  |  |  |
| Use the side/angle properties of isosceles and equilateral triangles;  |  |  |  |
| Show step-by-step deduction when solving problems;  |  |  |  |
| Understand and use the angle properties of intersecting lines;  |  |  |  |
| Understand a proof that the exterior angle of a triangle is equal to the sum of the interior angles at the other two vertices;  |  |  |  |
| Find missing angles using properties of corresponding and alternate angles;  |  |  |  |
| Understand and use the angle properties of parallel lines.  |  |  |  |
| 6b Interior and exterior angles of polygons | Recognise and name pentagons, hexagons, heptagons, octagons and decagons;  |  |  |  |
| Understand ‘regular’ and ‘irregular’ as applied to polygons;  |  |  |  |
| Use the sum of angles of irregular polygons;  |  |  |  |
| Calculate and use the sums of the interior angles of polygons;  |  |  |  |
| Calculate and use the angles of regular polygons;  |  |  |  |
| Use the sum of the interior angles of an *n*-sided polygon;  |  |  |  |
| Use the sum of the exterior angles of any polygon is 360°;  |  |  |  |
| Use the sum of the interior angle and the exterior angle is 180°; |  |  |  |
| Identify shapes which are congruent (by eye);  |  |  |  |
| Explain why some polygons fit together and others do not;  |  |  |  |

**Links:**

LG1: You will build on your knowledge of shapes and angles to learn a wide variety of processes for calculating and working with angles.

LG2: You will apply the processes from this topic by working out which rules to apply to different geometric problems, and by explaining your reasoning.

LG3: You will use your problem-solving skills and mastery of geometry to solve complex Mathematical problems such as problems linking angles with algebra.