**** **Mathematics Faculty**

**Unit 7 Overview**

**Angles and Constructions**

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| **Topic** | **Key Ideas** | **Progress** |
| **R** | **A** | **G** |
| **Angles and Constructions** | I can calculate interior and exterior angles of regular polygons |  |  |  |
| I can read, draw and calculate bearings |  |  |  |
| I understand the conditions of congruency |  |  |  |
| I can use Pythagoras’ theorem to find the hypotenuse or a shorter side of a right-angled triangle |  |  |  |
| I can find a missing length or angle of a right-angled triangle using trigonometric ratios |  |  |  |
| I can recall and use exact trig values |  |  |  |
| I can solve problems involving a combination of Pythagoras’ theorem and trigonometry in 2D |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Calculating interior angles of a regular polygon (MW clip G19 and CM clip 32) | Formative assessment strategies e.g. MWBs, whole class questioning, Diagnostic Questions, SLOP time with self-assessment, Live Marking etc. Assessment is also supported with our use of ILOs that alternate between Basic Skills Checks one week and then a more individual ILO the following week through Maths watch and Corbett maths (see learning focus). Finally, every unit is assessed half-termly as part of our Assessment Calendar in Mathematics. | angle, degrees, regular, interior, polygon, edges, vertices |
| **2** | Calculating exterior angles of a regular polygon (MW clip G19 and CM clip 32) | angle, degrees, regular, exterior, polygon, edges, vertices |
| **3** | Reading, drawing and calculating bearings (MW clip and CM clips 26 & 27) | protractor, measure, bearing, three-figure, clockwise, north, angle |
| **4** | Understanding the conditions of congruency (MW clip G31 and CM clip 67) | angle, side, condition, congruent, identical |
| **5** | Using Pythagoras’ theorem to find the hypotenuse or a shorter side of a right-angled triangle (MW clip G30 and CM clip 257) | triangle, right angle, hypotenuse, Pythagoras’ theorem, sum, square, square root |
| **6** | Finding a missing length of a right-angled triangle using trigonometric ratios (MW clip G35a and CM clip 330) | trigonometry, sin, cos, tan, hypotenuse, adjacent, opposite |
| **7** | Finding a missing angle of a right-angled triangle using trigonometric ratios (MW clip G35b and CM clip 331) | trigonometry, sin, cos, tan, hypotenuse, adjacent, opposite, inverse |
| **8** | Recalling and using exact trig values (MW clip and CM clip 341) | trigonometry, sin, cos, tan, hypotenuse, adjacent, opposite, inverse, exact value |
| **9** | Solving problems involving a combination of Pythagoras’ theorem and trigonometry in 2D (MW clips G30, G35a & G35b and CM clips 257, 330, 331 & 341 ) | trigonometry, sin, cos, tan, hypotenuse, adjacent, opposite, inverse, Pythagoras’ theorem, sum, square |