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**Mathematics Faculty**

**Year 10 Higher – Spring Term 2**

**Unit 7 Overview – Pythagoras’ Theorem and Trigonometry**

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| **Topic** | **Key Ideas** | **Progress** | | |
| **R** | **A** | **G** |
| **Pythagoras’ Theorem and Trigonometry** | I can recognise congruent shapes. |  |  |  |
| I can use Pythagoras’ theorem in 2D and 3D problems. |  |  |  |
| I can use trigonometry to find missing sides and angles in 2D and 3D shapes. |  |  |  |
| I can recall exact trig values. |  |  |  |
| I can use the sine and cosine rules to find missing sides and angles in non-right-angled triangles. |  |  |  |
| I can use ½ absinC to calculate the area of a triangle. |  |  |  |

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| **Lesson** | **Learning Focus** | **Assessment** | **Key Words** |
| **1** | Using the basic congruence criteria (SSS, SAS, ASA & RHS) for triangles (CM clip 67) | 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, set through Century Learning, Corbettmaths, Dr Frost Maths and Justmaths.  Finally, units are assessed through skills checks and half termly assessments, as part of our Assessment Calendar in Mathematics. | congruent, angle, side, hypotenuse |
| **2** | Applying Pythagoras’ theorem in 2D problems (CM clip 257) | Pythagoras’ theorem, right angle, triangle, hypotenuse, length |
| **3** | **Using the trigonometric ratios in right-angled triangles to find unknown lengths** (CM clip 330) | trigonometry, sine, cosine, tangent, opposite, adjacent, hypotenuse, length |
| **4** | **Using the trigonometric ratios in right-angled triangles to find unknown angles** (CM clip 331) | trigonometry, sine, cosine, tangent, opposite, adjacent, hypotenuse, angle |
| **5** | Knowing and using exact trig values (CM clip 341) | trigonometry, sine, cosine, tangent, opposite, adjacent, hypotenuse, length, angle, exact value |
| **6** | Applying Pythagoras’ theorem and trigonometry in three dimensional figures (CM clips 259 & 332) | Pythagoras’ theorem, right angle, triangle, trigonometry, sine, cosine, tangent, opposite, adjacent, hypotenuse, length, angle, exact value |
| **7** | **Using the sine rule to find unknown lengths and angles** (CM clips 333 & 334) | trigonometry, triangle, side, sine, angle |
| **8** | **Using the cosine rule to find unknown lengths and angles** (CM clips 335 & 336) | trigonometry, triangle, side, cosine, angle |
| **9** | **Using area = ½ absinC to calculate the area of a triangle** (CM clip 337) | triangle, area, sine, length, angle |