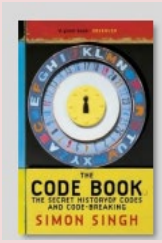
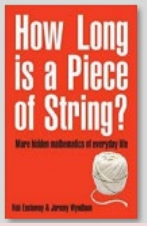
# The English Martyrs Catholic School and Sixth Form College

| Year 10 Maths Foundation | Module 1 | Module 2 | Module 3 |
|---|---|---|---|
| **Topic Theme and Intent** | Within this first Module, Year 10 students will cover 5 main areas of the curriculum which are: Number, Algebra, Ratio and Proportion, and Shape. | Within Module 2, Year 10 students will cover 5 main areas of the curriculum which are: Data, Number, Algebra, Shape and Ratio and Proportion. | Within Module 3, Year 10 students will cover 5 of the main areas of the curriculum which are: Number Data, Algebra, Shape and Ratio and Proportion. |
| **Knowledge and Skills** | Data: Probability, listing outcomes, two-way tables, frequency trees<br><br>Number: Estimation, bounds, making calculations with mixed numbers<br><br>Algebra: Solving equations, forming and solving equations<br><br>Ratio and Proportion: Dividing ratio, ratio as a fraction, two ratios & difference, recipes, best buys, basic inverse & direct proportion<br><br>Shape: Rotational symmetry, transformations, Pythagoras, Trigonometry | Data: Tree diagrams, stem & leaf diagrams, averages from tables<br><br>Number: Percentage increase & decrease, percentage change, reverse percentages, indices<br><br>Algebra: Expanding double brackets, factorising quadratics, equation of a line, parallel lines, quadratic/cubic/reciprocal graphs<br><br>Ratio and Proportion: Simple interest, compound interest, distance time graphs, speed, density and pressure<br><br>Shape: 3D shapes, nets, plans of elevation, isometric drawing. | Data: Timetables, Venn diagrams,<br><br>Number: Standard form<br><br>Algebra: Equations involving area, perimeter & angles, rearranging formula and simultaneous equations<br><br>Ratio and Proportion: Congruency, similar shapes.<br><br>Shape: Area & circumference of circles, area & perimeter of a semi-circle, compound area, angles in parallel lines, angles in polygons, volume & surface area of prisms, cylinders, bearings including trigonometry, constructions |
| **Literacy Links** | **Reading**: Forming equation given information.<br>**Writing**: Describe transformation.<br>**Oracy**: Explain when to use each ratio in trigonometry. | **Reading**: Read and interpret tree diagrams.<br>**Writing**: Write down formulas for speed, density and pressure.<br>**Oracy**: Verbalise the difference between simple and compound interest. | **Reading**: Interpret Venn diagrams.<br>**Writing**: Set up simultaneous equations.<br>**Oracy**: Explain the difference between surface area and volume. |
| **Essential Vocabulary** | Truncating, forming equations, direct & inverse proportion, SOHCAHTOA | Multipliers, tree diagrams, quadratics, simple & compound interest | Simultaneous equation, constructions, congruency, changing the subject, Venn diagram |

## Disciplinary Reading



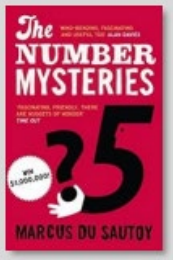

The Code Book by Simon Singh



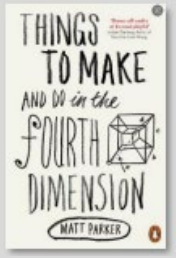

How Long Is a Piece of String by Rob

## Reading for Pleasure


Flatland by Edwin A. Abbott




The Number Mysteries by Marcus Du Sautoy




Things to make and do in the fourth dimension by Matt Parker

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