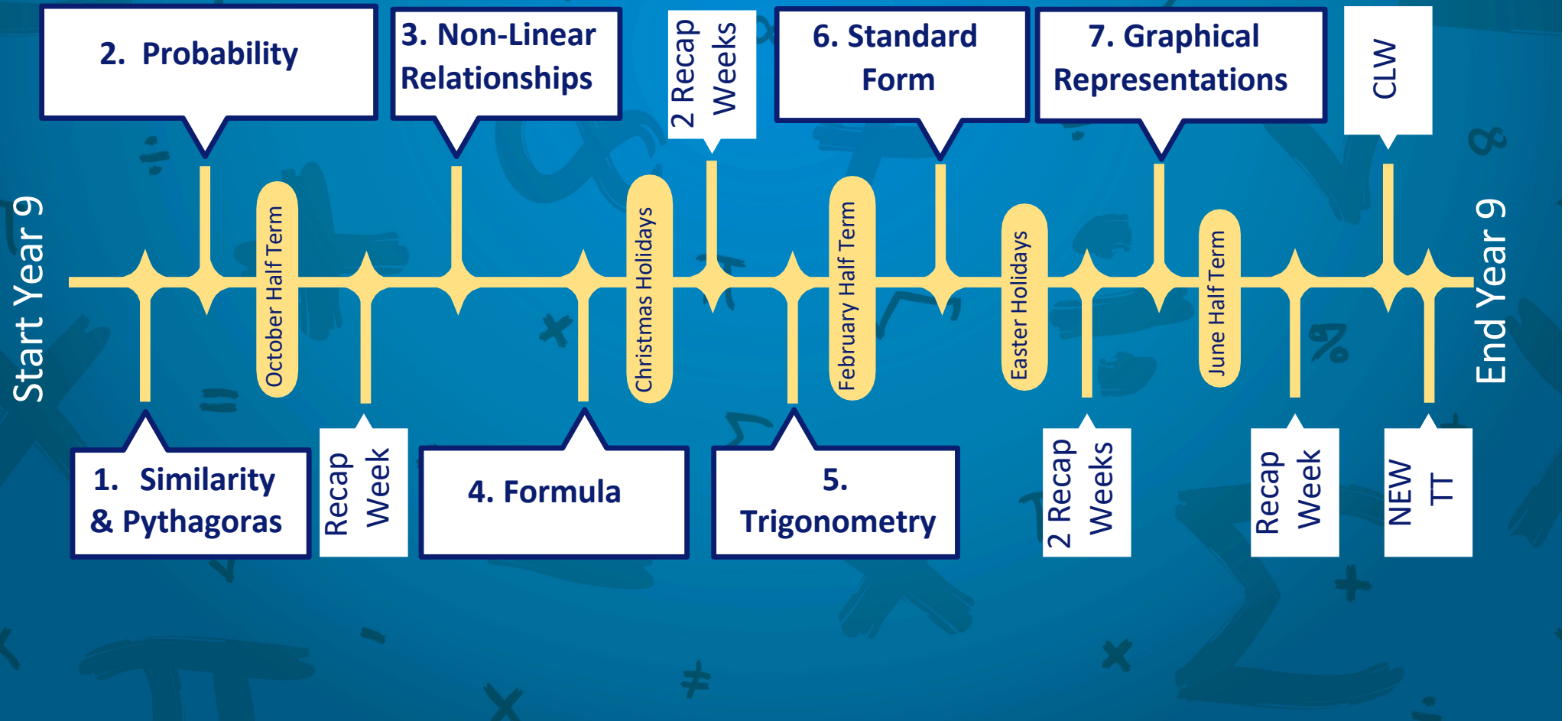


YEAR 9

SCHEME OF LEARNING



	Topics / National Curriculum Links	Why?
1 – Similarity and Pythagoras	Similar triangles, congruence. Pythagoras Theorem	This is one of the trickier contexts to sort out Mathematically, but once you can conceptualise a scaling factor of enlargements, it becomes much better. Congruence is supportive of construction techniques; Pythagoras is a staple of lots of Mathematical calculations and still used although it is thousands of years old.
2 – Probability	Relative Frequency, outcomes and events. Venn diagrams and tree diagrams	Probability and statistics is a massive growth area for Mathematics job opportunities outside of education. This builds on knowledge of numerical skills mastered in previous years.
3 – Non-Linear Relationships	Quadratic sequences, Quadratic graphs, Quadratic factorising and solving.	A quadratic basically has a certain value of x^2 in it. This can be the more complex end of GCSE mathematics, but again we build up these skills over a period of time and evolve and grow over years 9, 10 and 11
4 – Formula	Expanding and factorising, rearranging formula. Fractions, brackets and powers.	Back to some algebraic skills, these are built up over multiple years we continue here to build on skills and knowledge from previous years and chapters.
5 – Trigonometry	90 degree trigonometry, calculating missing sides and angles.	Sine, Cosine and Tangent trigonometric ratios have been a Mathematical main stay and are still used in the building trade today, again once it is conceptualised with a calculator is is not too bad.
6 – Standard Form	Indices and Powers. Conversion of ordinary numbers to and from standard form. 4 operators with standard form with and without calculator.	As a number system standard form is around us daily, terms such Mega, Nano, Kilo, Giga are all engineering standard form, Mathematical standard form is slightly different, but again, calculator and non-calculator techniques are needed.
7 – Graphical Representation	Plotting linear, quadratic and cubic graphs. Graphical inequalities, real life graphs and speed distance and time graphs.	Graphical representation of functions can be straight line or curved. Speed distance time graphs are useful for calculations as things change.