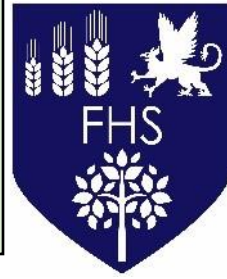
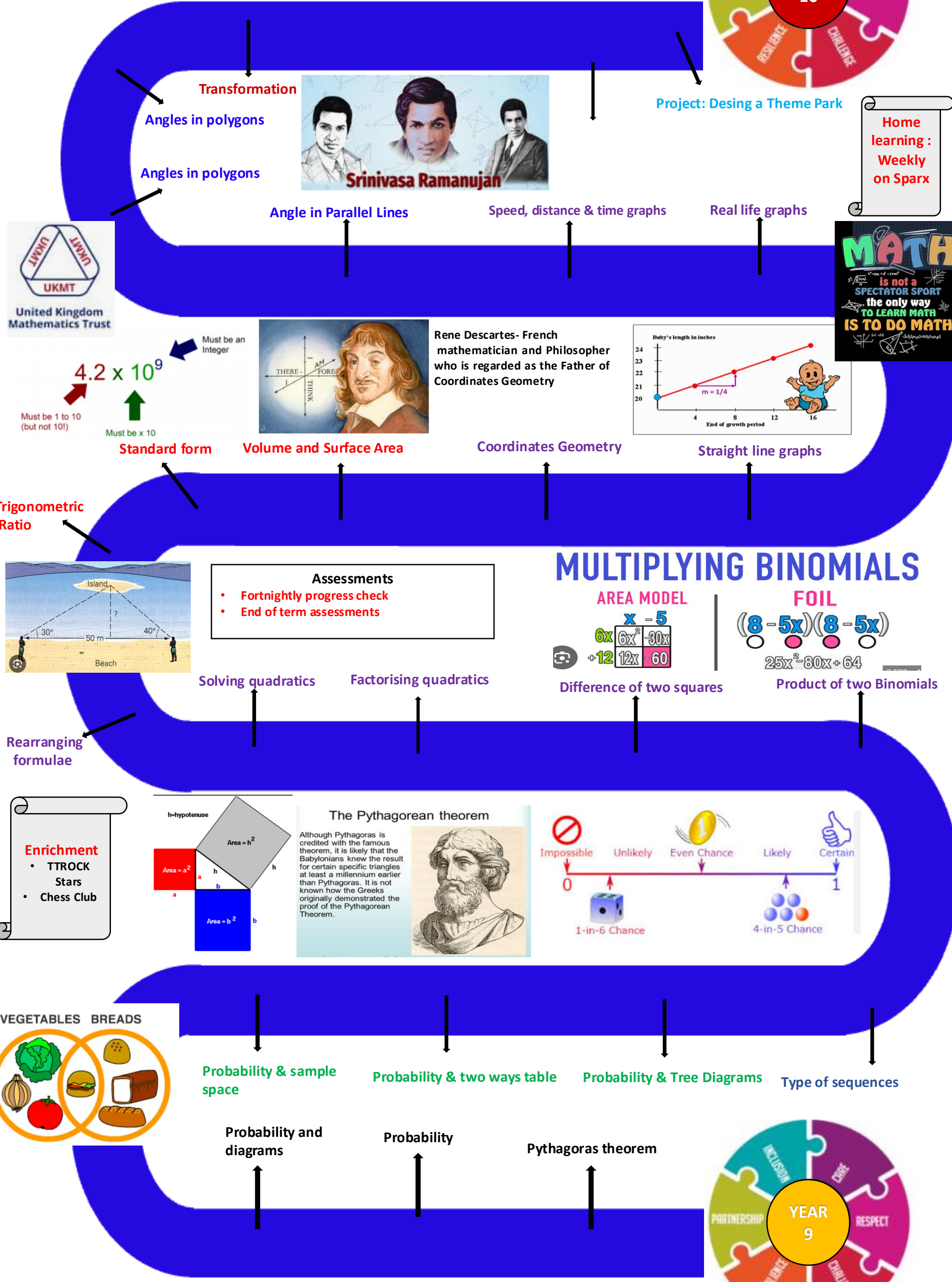


# Year 9-Mathematics

- Links to careers/SMSC/Personal Development:
- Pythagoras was a Greek philosopher who made important developments in Mathematics, astronomy, and the theory of Music. The theorem now known as Pythagoras's theorem was known to the Babylonians 1000 years earlier but he may have been the first to prove it.
- Celebrate Pi day and show appreciation to Maths and Science
- UKMCT challenge for year 9 to develop problem solving skills
- World numeracy day to promote the love and appreciation of numeracy skills to use in daily life
- Maths related careers when specific topic is taught



## LEARNING JOURNEY



### Year 9 learning summary: Rationale

In Year 9 we will explore the following: We believe the following

- While students have heard or learnt about Pythagoras' theorem, students will investigate, explore and derive the theorem. Students beyond and use it in real life scenarios
- introduction to probability and words that are associated with probability such impossible, likelihood and certain
- on how probability is used in many aspects of their daily lives, from sporting events to weather reports. However, students may feel that their lived experiences do not reflect calculated mathematical likelihoods
- Consolidate, secure and deepen their understanding of sequences and patterns and will progress to describing any term directly in relation to its position in the sequence
- In Year 7 autumn term, students used the distributive law to expand a single term over a binomial. Here we will use the same law to work with pairs of binomials and expand two or more brackets
- expansion is a generalisation of the familiar 'grid method' for multiplication
- develop the use of standard form and will deepen their understanding of the different ways that numbers can be expressed and will become more proficient in changing from one form to another
- the connections between equations of lines and their corresponding graphs, including those presented in a non-standard form, such as  $ax + by = c$ , as well as the more standard  $y = mx + c$
- how similarity and scale factors are linked to trigonometric functions and the fundamental ratios of  $\sin \theta = opp/hyp$ ,  $\cos \theta = adj/hyp$  and  $\tan \theta = opp/adj$
- Extend their understanding of angle reasonings with angles in parallel lines and polygons.
- Revisit transformation and construction to make sure students have a good grasp of these topics before moving on to KS4,