

# ONLINE MATH SUMMER SCHOOL

## BY IRFANA SAEED QURESHI

# GETTING READY FOR GCSE MATHEMATICS

**Lesson 1: Number Systems and Calculations**  
Review of operations with integers, fractions, decimals, and percentages  
Introduction to surds and indices  
Practice solving problems involving multiple number systems

**Lesson 2: Algebraic Expressions and Equations**  
Simplifying algebraic expressions  
Solving linear equations and inequalities  
Introduction to quadratic equations & factoring

**Lesson 3: Geometry and Trigonometry**  
Properties of angles, triangles, and quadrilaterals  
•Pythagoras' theorem and basic trigonometric ratios

**Lesson 6: Functions and Graphs**  
Understanding linear, quadratic, & exponential functions  
Plotting and interpreting graphs

**Lesson 7: Real-life Applications of Mathematics**  
Examining real-world problems and their mathematical solutions  
Applying math to finance, geometry, and statistics  
Critical thinking exercises to analyze and solve practical scenarios

**Lesson 8: Question and Answer Session/Exam Preparation**  
Information on the structure of exams and the different exam papers  
A chance to view and discuss past papers and analyse the various styles of exam questions and good exam answering techniques.

### COURSE OBJECTIVE:

The objective of this course is to prepare UK Year 9 students aged 13 to 14 for the upcoming GCSE Math curriculum by reinforcing key concepts from lower years and introducing essential topics they will encounter at GCSE level.

### Lesson 4: Statistics and Probability

Data representation using frequency tables, histograms, and scatter plots  
Measures of central tendency and spread.

Introduction to probability & probability calculations

### Lesson 5: Ratio, Proportion & Rates of Change

Solving problems involving direct & inverse proportions

Calculating rates of change and percentages  
Application of ratios in real-life scenarios



**ONLINE PERSONAL TUTOR**

**IRFANA SAEED QURESHI**

STUDENTS AGE 7-16

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**ALL STUDENTS  
TO RECEIVE AN  
CERTIFICATE OF  
COMPLETION AT  
THE END OF THE  
COURSE**