

MATHS NEWSLETTER 2023-2024 TERM 1.

It has been lovely getting all the students back into school. We are delighted with our students' performance in the GCSE examinations, demonstrating substantial improvement compared to the 2019 results, which were the last results not impacted by the pandemic. After a successful STEM mentoring programme last term, we are starting this programme again. You must have seen the letters. Please send the reply slips back to Ms Bharadawa I look forward to working with you during the coming academic year to ensure your child continues succeeding. Please do contact me if you have any questions or would like more information about a particular area. I can be emailed at ntakhar@rooksheath.harrow.sch.uk , or please email the relevant class teacher.

Many thanks,

Mrs N Takhar (Head of Mathematics)

Assessment Dates

Year 7: W/C 4th December End of term test

Year 8: W/C 4th December End of term test

Year 9: W/C 4th December End of term test

Year 10: End of term assessment W/C 18th December

Year 11: Pre Mock 2 Paper 1 (non-calculator) 9th October

Pre Mock 2 Paper 2 (calculator) 30th October

Year 11 Mocks W/C 20th November

Year 12: HT1 test W/C 16th October

Sixth form Mocks W/C 4th December

Year 13: HT1 test W/C 16th October

Sixth form Mocks W/C 4th December

Year 7-11: Skill review week W/C 18th October

In addition to these assessments, all students will have regular end of chapter tests and half termly skills tests.

**LOOK OUT FOR INFORMATION
IN 'SACHEL ONE', 2 WEEKS
BEFORE THE ASSESSMENT**

Maths Support

What	When	Where
Maths Homework Club	Every Thursday 3:15pm – 4:10pm	EG6
KS4 Maths Master Class (Years 10 and 11)	Every Thursday 3:15pm – 4:10pm	EF7/EF3
GCSE Further Maths	Every Thursday 3:15pm – 4:10pm	EF6
KS5 Maths Club (Years 12 and 13)	Individual student will be informed about timings and room	
UKMT Maths Challenge Club	Every Thursday 3:15pm – 4:10pm	EG7

Homework

Homework is set once a week.

Once a week, it will be a written piece of homework - it can be a worksheet or an exercise from the homework books.

The following week, an online homework will be set on either MyMaths or Kerboodle. Teachers will set the homework as an assignment on Teams, and you should also get a notification via Satchel One.

Year 7 and 8 will get printed homework sheets to stick in their books.

Year 9,10 and 11 will get separate Maths homework book with a homework tracker at the back of the book. Parents/Carers please do sign the tracker after every homework is completed in the space provided.

This half term we will be assigning open homework to our students where Year 7 and 8 will be doing research on numbers from 1 to 30 and creating book cover for their Maths books. Year 9 and 10 will be doing research on their favourite/ famous mathematician and make book cover for their books.

Learning this term?

As a department we follow the schemes of learning from White Rose Maths and Kerboodle. The Knowledge Organiser for each topic can be found in Teams/SharePoint in Year Group folders.

GCSE Maths exam board - Edexcel

Level 2 Further Maths exam board - AQA

AS/A' level Maths exam board - Edexcel

This term the Year Groups are studying the following:

Year 7	<ul style="list-style-type: none"> Algebraic Thinking Place Value 	Year 12	<ul style="list-style-type: none"> Algebraic Expressions Quadratics Equations and inequalities Graphs & Transformations Straight line graphs Circles Algebraic Methods Differentiation
Year 8	<ul style="list-style-type: none"> Proportional Reasoning 		
Year 9	<ul style="list-style-type: none"> Calculations Expressions Angles and Polygons Handling data 	Year 13	<ul style="list-style-type: none"> Radians Trigonometry functions Trigonometry and modelling Sequences and series Functions and graphs Parametric equations Vectors
Year 10	<ul style="list-style-type: none"> Probability Measures and accuracy Equations and Inequalities Circles and Construction 		
Year 11	<ul style="list-style-type: none"> Graphs Working in 3D shapes Data Handling 		

Exam Tip

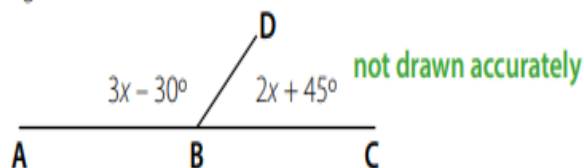
If a question asks you to **draw** a diagram or **plot** a graph then it must be done accurately, for example, by calculating points and joining them with a smooth curve. If a question asks for a **sketch** then it does not have to be drawn accurately but it must show all relevant information.

Drawn / Not drawn accurately

A question may provide a diagram which is labelled as **drawn accurately**, in which case you can measure angles and distances using a protractor and ruler, or as **not drawn accurately**, in which case a calculation will be required

Work out angle ABD.

[4]



Here the examiner is looking for you to use a mixture of geometry and algebra to find $x = 33^\circ$ and hence angle $ABD = 69^\circ$; you should **not** use a protractor to measure the angle.

Symbol of the term



Symbol Name: Congruence

Mathematical meaning: States that two shapes are identical to each other.

When two objects have same size and shape are called 'Congruent' in geometry. The following conditions are used to demonstrate that two triangles are congruent.

RHS (Right angle - Hypotenuse - Side)

SSS (Side- Angle-Side), ASA (Angle-Side-Angle)

SAS (Side-Angle-Side), AAS (Angle-Angle-Side)

Word of the term

Complex number

Complex numbers are the numbers which can be expressed in the form of $a + ib$, where ' i ' is an imaginary number called 'iota', a and b are real numbers.

The value of $i = \sqrt{-1}$.

For example, $z = 3 + 5i$ is a complex number, where $5i$ is an imaginary number, and 3 is real number.

Career in Maths

Maths is significantly important in our life. Without realising it, we use mathematical concepts and skills in our everyday life. A variety of fascinating employment opportunities are made possible by the flexible and effective discipline of mathematics. A solid foundation in maths can open door to numerous career opportunities in different fields. To support our students at Rooks Heath, the maths department is organising a variety of extracurricular activities.

To raise students' attainment, we construct and teach a high-quality maths curriculum. Teachers in our department try to engineer the best possible start of the lesson, by giving students an opportunity to explore various career options related to the topic/s they are learning. See the example on the right:



Key terms: Faces, Edges, Vertex or vertices, LO: Construct net of 3D shape and interpret plan and elevations of 3D shapes

Careers

Possible career options in 3D include:

- 3D Animation/Modelling. 1988 was the year when the movie who framed roger rabbit? was released, and the field of animation exploded.
- 3D Graphic Design.
- Web Designer(Web developer)
- 3D Game Development.
- 3D Printing.
- 3D Modeling Careers**
 - 3D Modeler (Film)
 - Character Artist.
 - Environment Artist.
 - Asset Artist (Games)
 - Texture Artist.
 - Look Dev Artist.
 - Archviz Artist.



"I learned about potential opportunities in mathematics through the STEM mentoring program. It highlighted the significance of STEM subjects and potential career options related to the subjects. The instructor of the course was very helpful and encouraging, making it simple to access the information."

- Ahmed (Year 9)

Maths Puzzle of the term

Just follow the instructions from left to right, starting with the number given to reach an answer at the end.

A

EASY	20	x 3	+ $\frac{2}{3}$ OF IT	+ $\frac{1}{4}$ OF IT	x 3	÷ 5	- 70	x 11	TRIPLE IT	x 2	ANSWER	<input type="text"/>
MEDIUM	242	+ 487	÷ 9	- 9	+ $\frac{5}{12}$ OF IT	DOUBLE IT	+ $\frac{3}{4}$ OF IT	+ 201	x 2	+ $\frac{1}{4}$ OF IT	ANSWER	<input type="text"/>
HARDER	18	SQUARE IT	÷ 36	x 12	+ 64	+ $\frac{1}{4}$ OF IT	+ $\frac{3}{5}$ OF IT	TRIPLE IT	+ 299	- $\frac{5}{11}$ OF IT	ANSWER	<input type="text"/>

ACTIVITY WEEK – JULY 2023

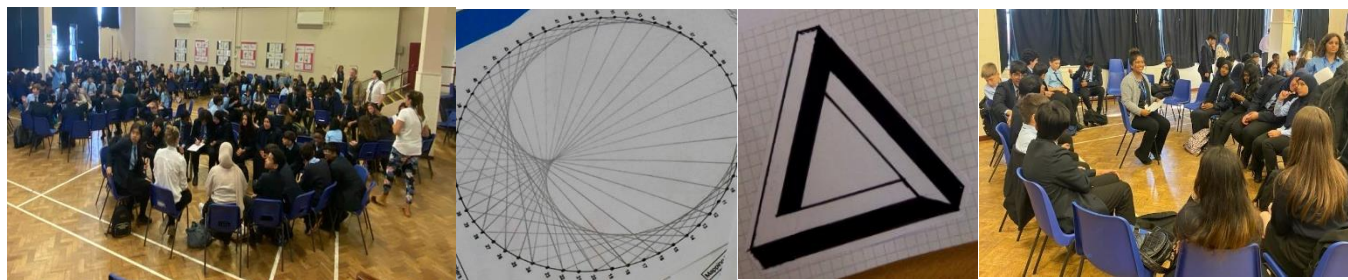
The maths department organised various fun activities involving art and maths during activity week on July 23, with the aim of making the subject more fascinating, engaging, and enjoyable. This also demonstrated the interesting aspects of the subject.

Maths and art have many of the same fundamental concepts. Both fields demand the ability for identifying patterns and logical thinking in space. Geometry, which includes shapes, symmetry, proportion, and measurement, is a tool used by both artists and mathematicians.

Year 9 students worked on the drawing 'Impossible objects'. A specific type of optical illusion is an impossible item. 'Undecidable figures' is another name for impossible objects. Students used their geometry knowledge to draw them.

Year 8 students worked on 'Cardioid' drawing. They used sequence knowledge to draw them. In higher study the cardioid formula is given by the equation $r = 2(1 + \cos \theta)$.

Year 7 students participated in mathematical quiz as a whole year group. The winner group received chocolate from the department. Basic mathematical operations and geometrical ideas, which require the student to think, as well as some simple but enjoyable twister questions, are the types of questions that are asked in a mathematics quiz. By this way, students were able to revisit their key mathematical ideas with the help of these brain teaser challenges.



Welcome to Rooks Heath School



Year 7

Meet the Maths Team

Mrs N. Takhar (Head of Maths)

Ms H. Bharadawa (KS4 Coordinator)

Mrs H. Grewal (KS3 Coordinator)

Mrs S. Subra

Mrs A. Syed

Mrs S. Sritharan

Ms H. Capper

Mr E. Bissoon

Mrs H. Afzalzada

Mrs R. Bandar

Ms V. Caullet

Ms Y. Liu

Mr R. Mahmud