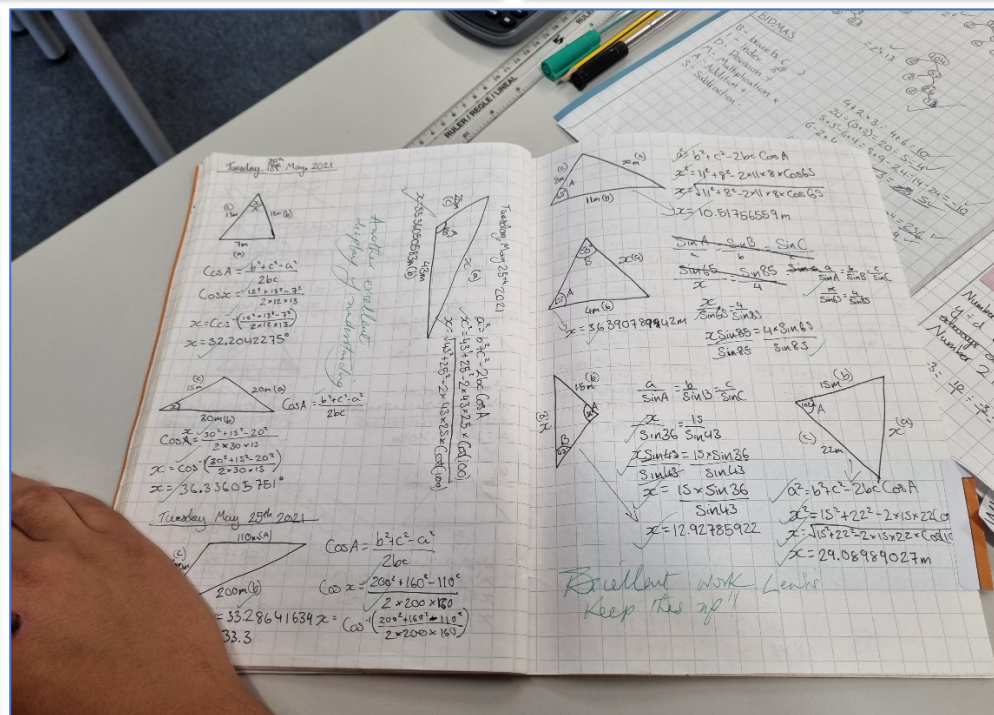
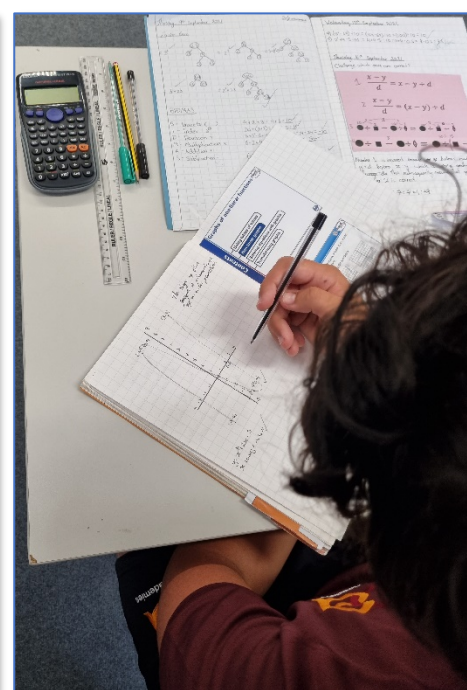
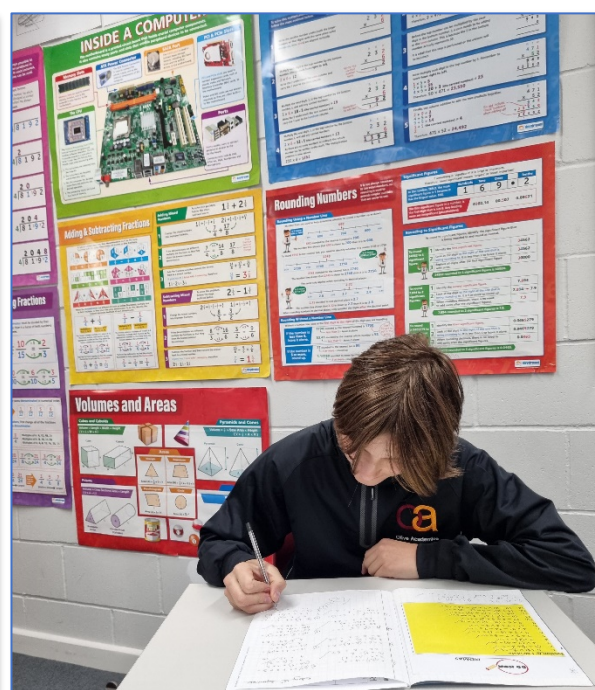
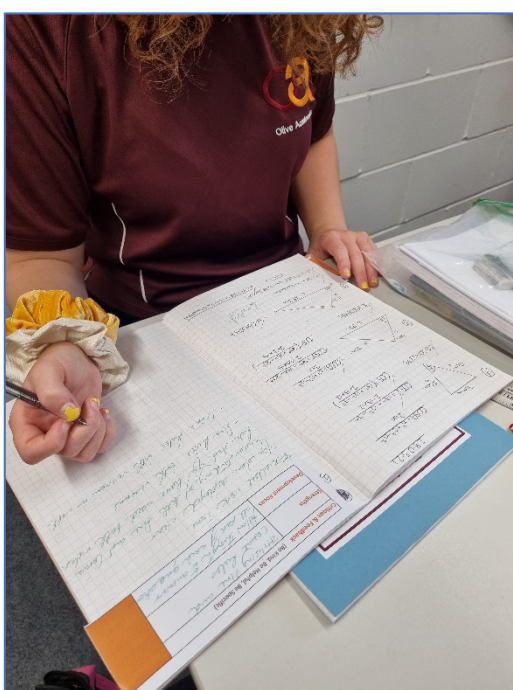
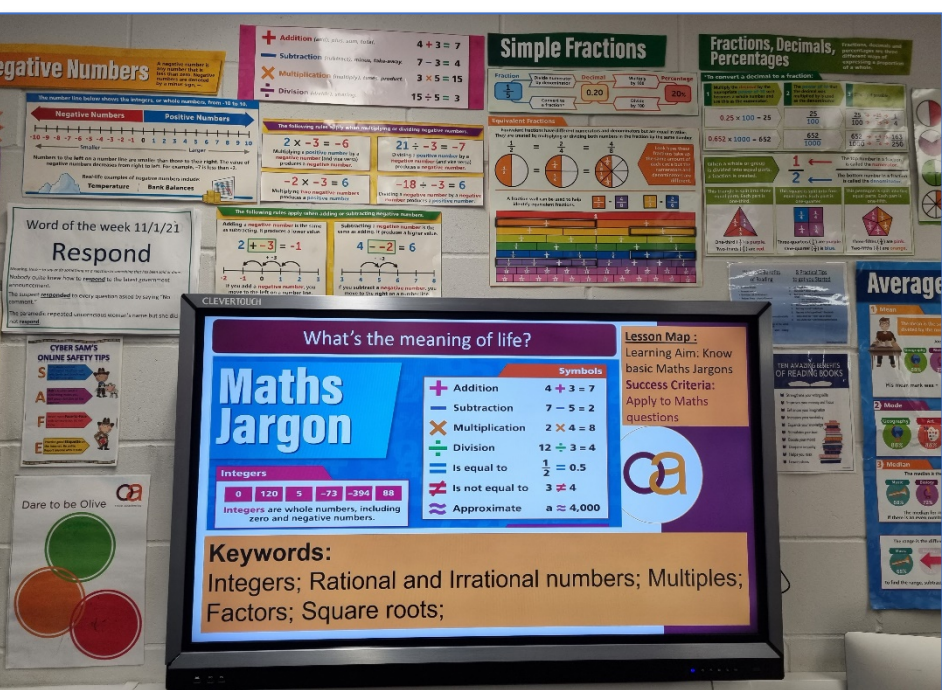


Mathematics Department



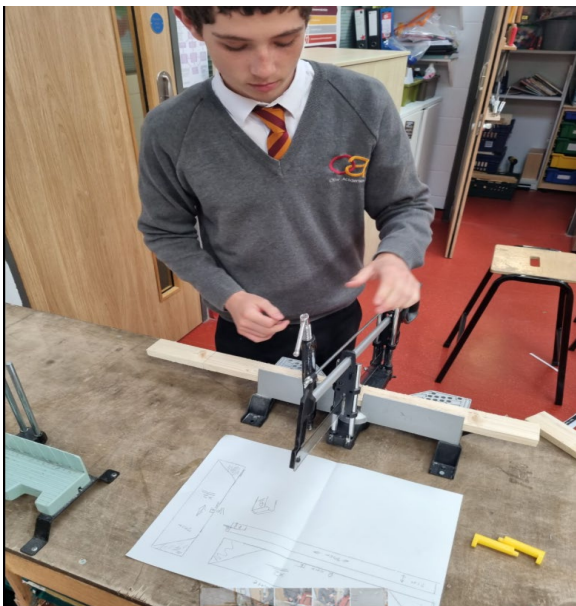
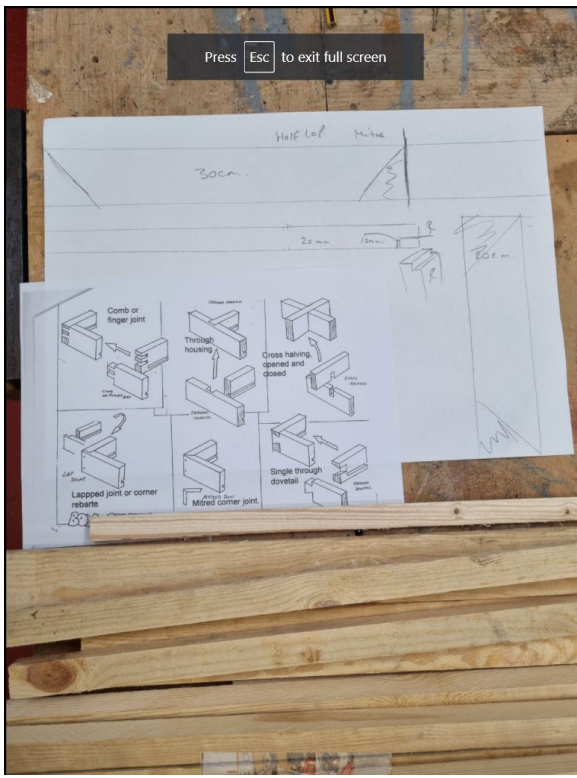
Friday, 19 November 2021



Conviction, Ambition, Resilience/ Reflection and Determination.

Examples of students in their Maths lessons engaged and focused on their lesson.

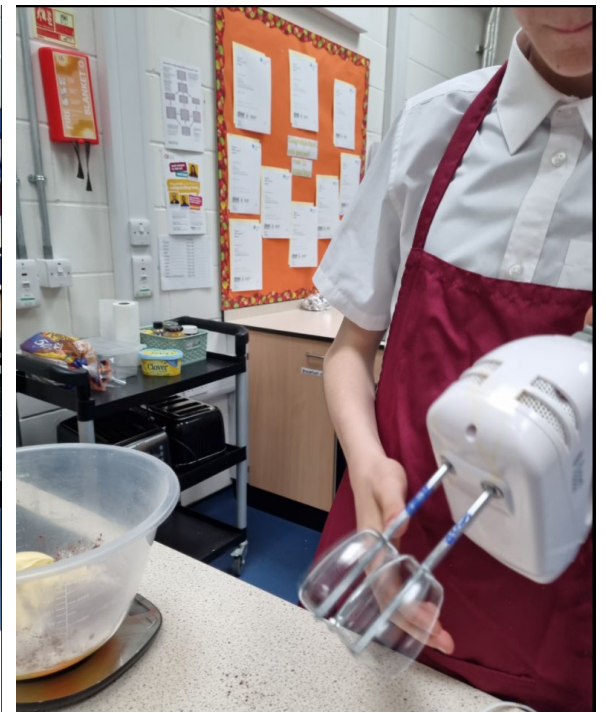




TC initially drew a floor plan to a particular scale using ratios. This was then further developed by identifying what products were needed and to what scale. I got the opportunity to work with the Design and Technology Teacher, Mr. Tuttle. TC has drawn his frame to scale and marked out the various sides needed. Using a mitre saw he is cutting his joint

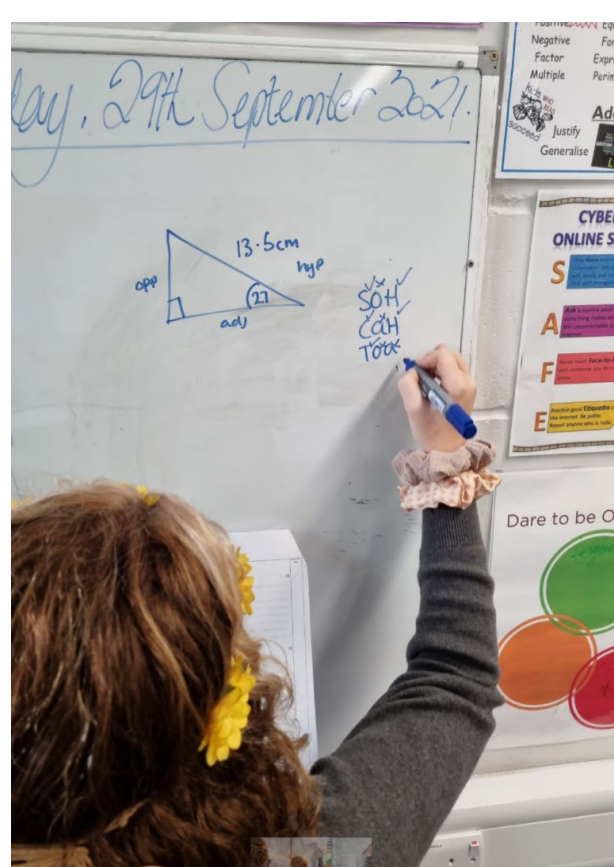
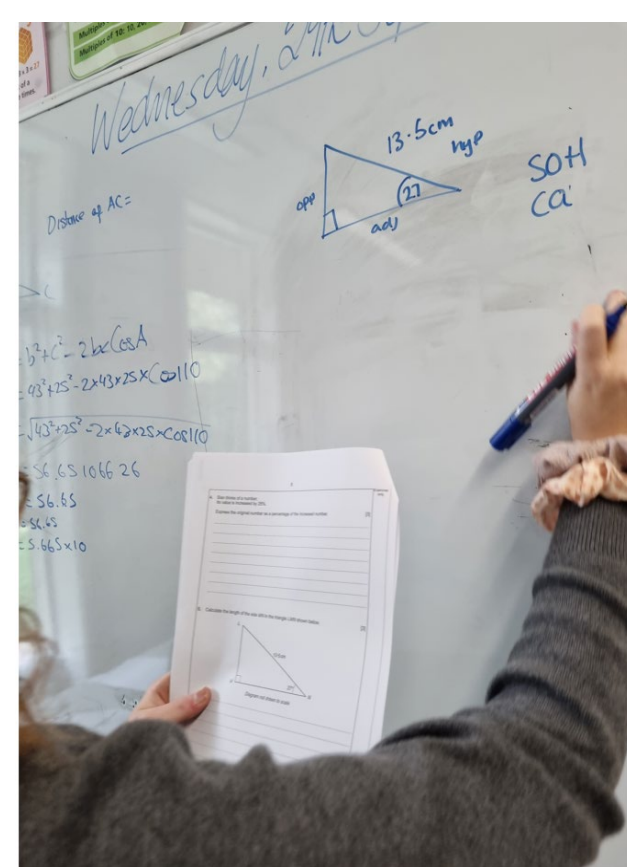
How did you gain the opportunity to in such an environment?





BM illustrating his knowledge in **measuring** to weigh out accurately his ingredients for his chocolate brownies. Once again, I had the opportunity to work with the Catering Department. How did you gain the opportunity to in such an environment?

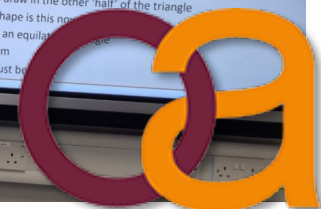
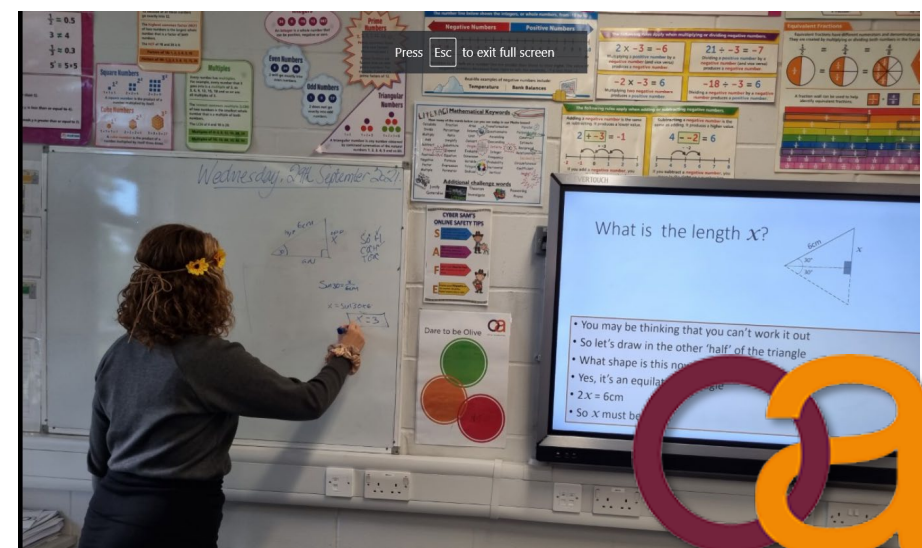


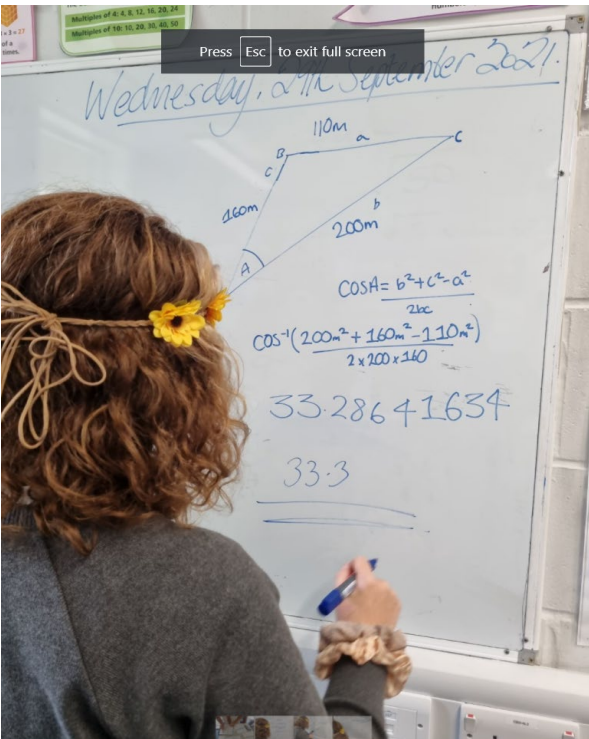
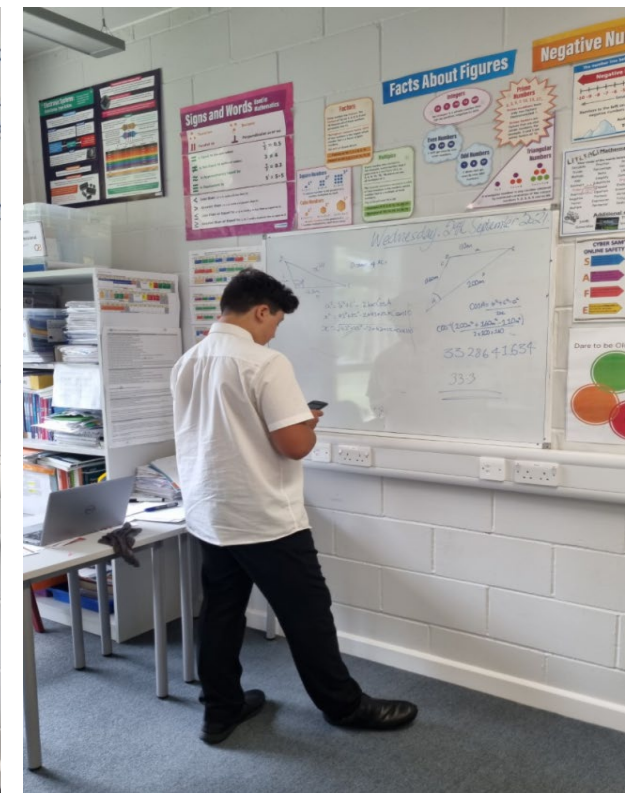
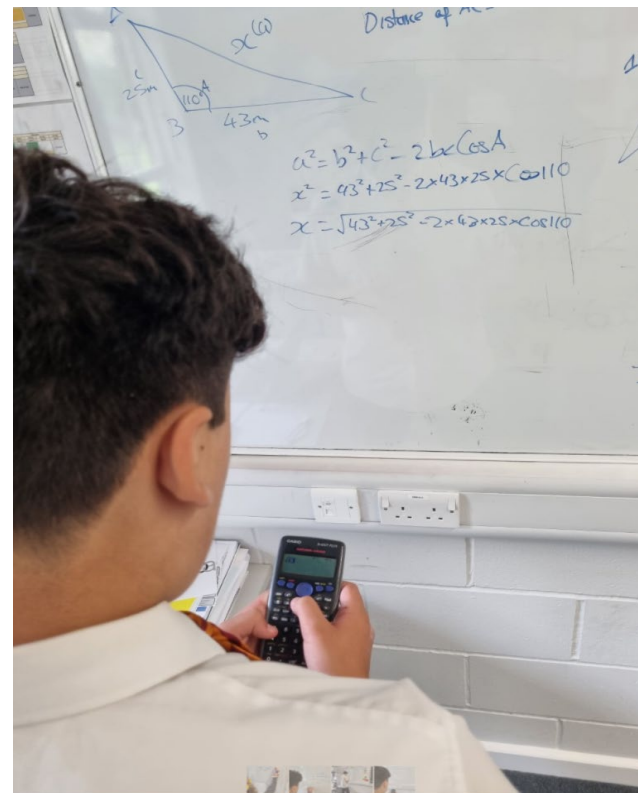
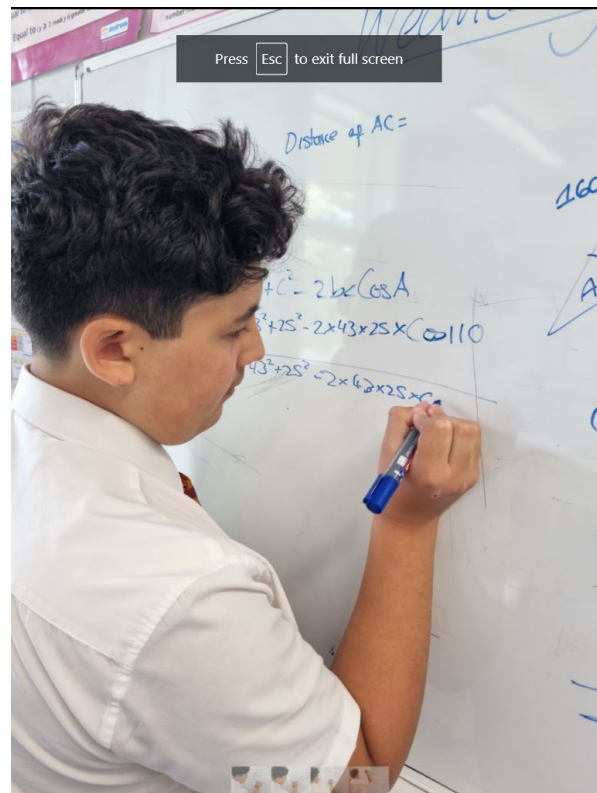
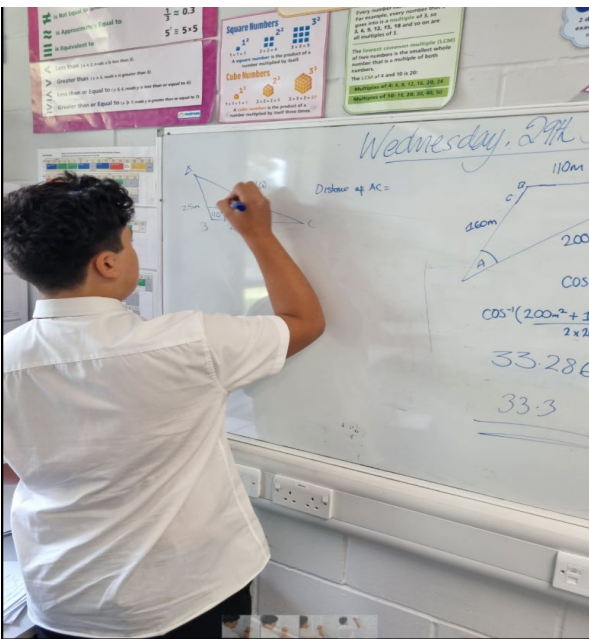


TL illustrating and demonstrating her understanding and knowledge of Pythagoras theorem and Trigonometry to class by answering a question in the Higher Maths GCSE Paper 2 calculator question.

How does it relate to Maths?

How did you gain the opportunity to in such an environment?

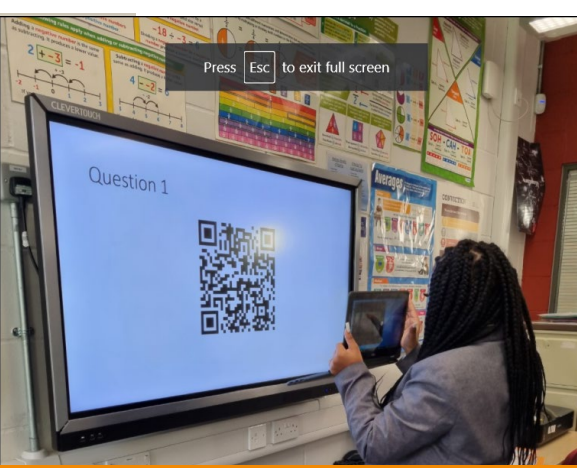




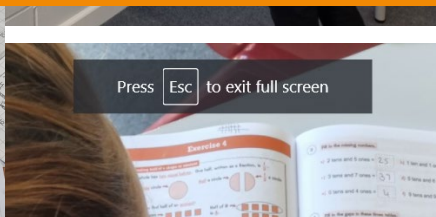
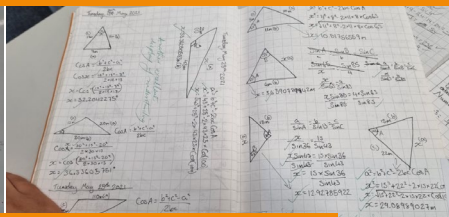
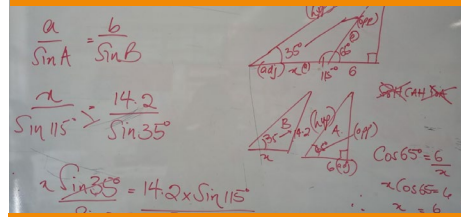
Trigonometry: Sine and Cosine Rules – GCSE Higher paper

LQ is a Year 9 high ability student in KS4 M group, with TL they are illustrating their understanding of trigonometry with linear equations on the board. Students are able to calculate angles by identifying which formula is best to solve the problem.

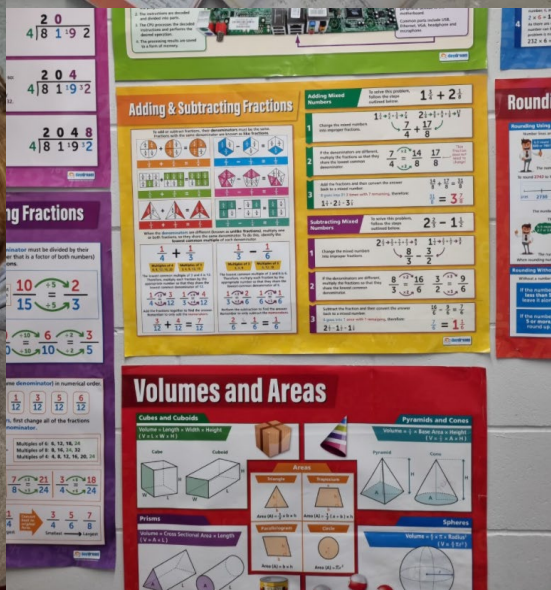
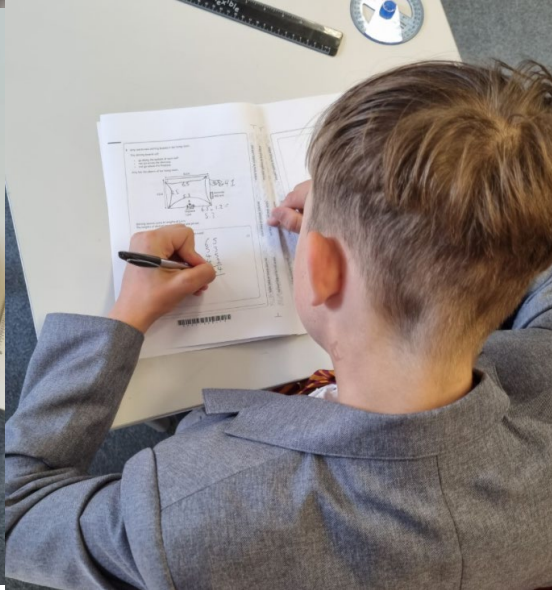
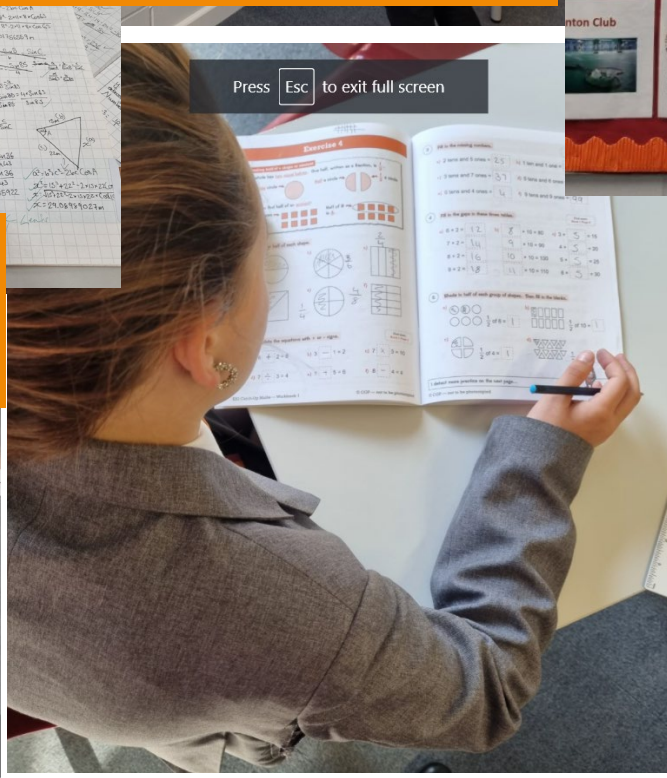
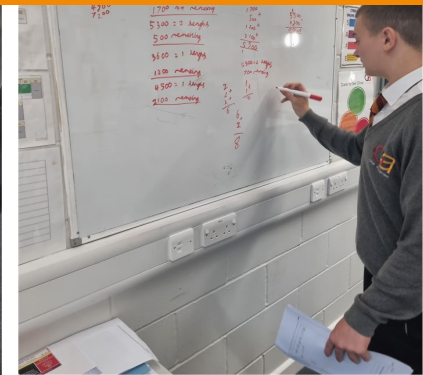
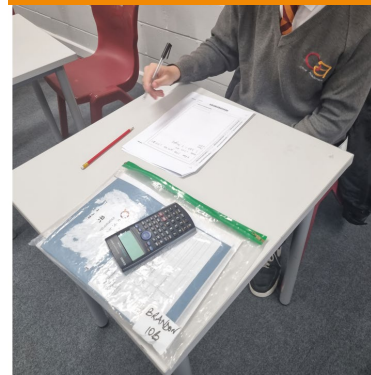




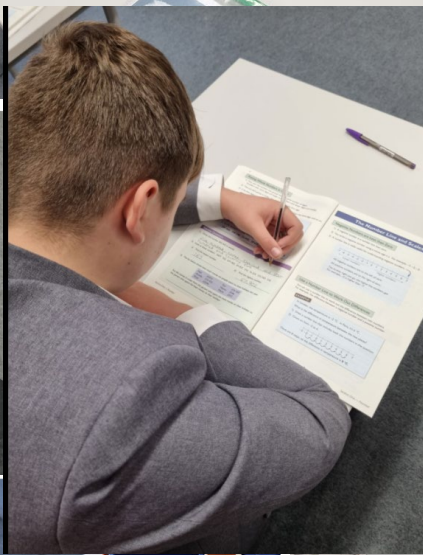
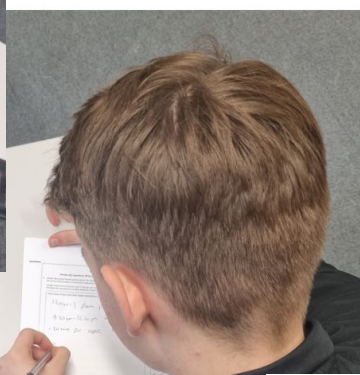
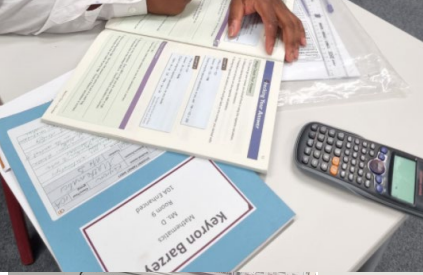
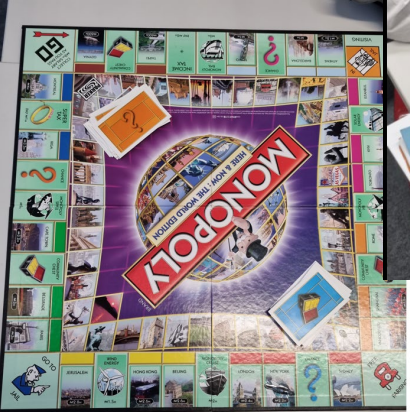
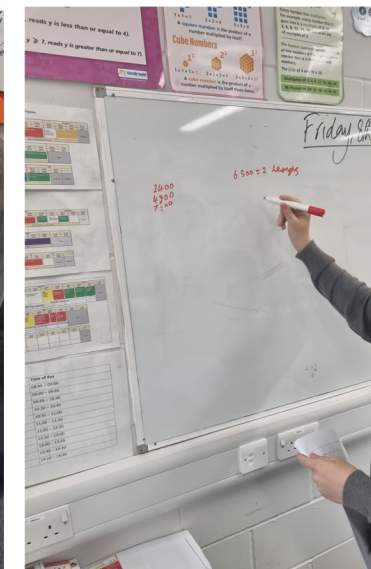
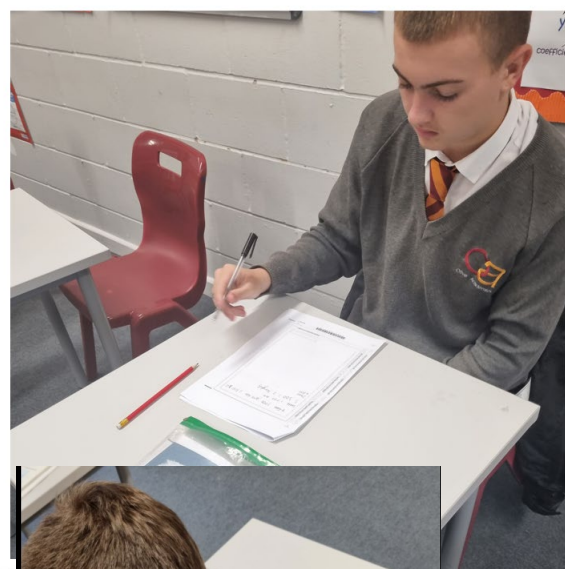
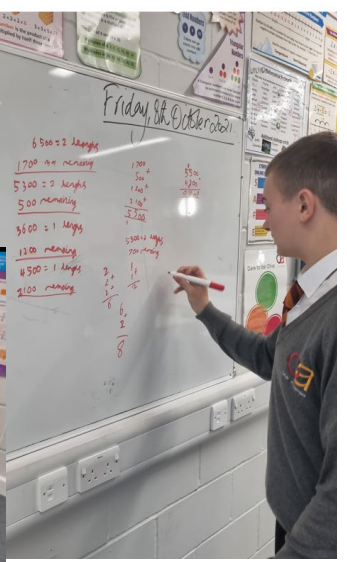
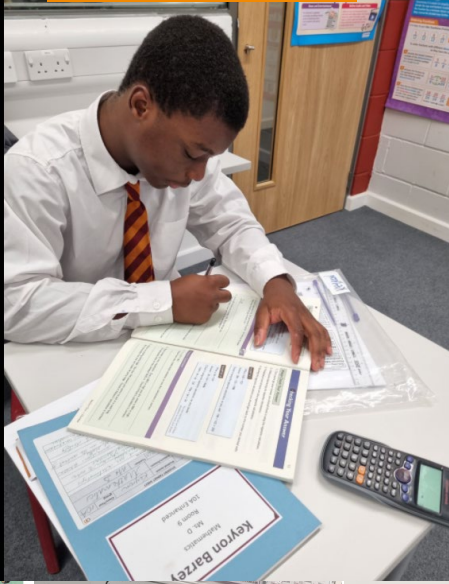
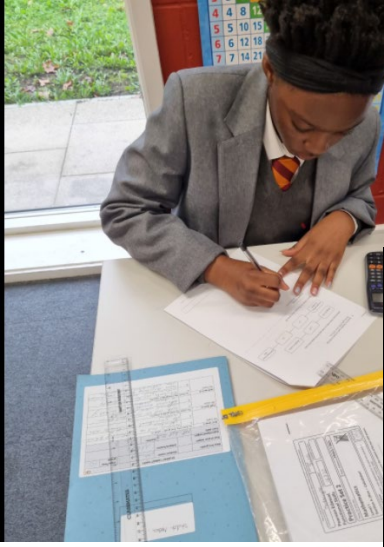
Students are working in pairs to solve real life solutions. Student on the top right is scanning the barcode to reveal the BIDMAS question.



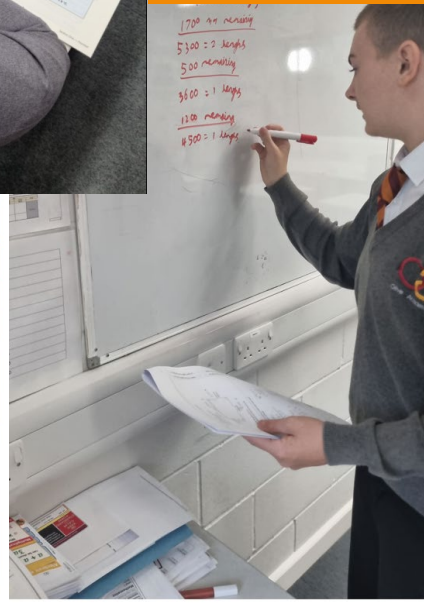
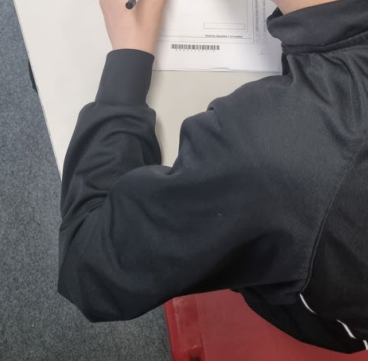
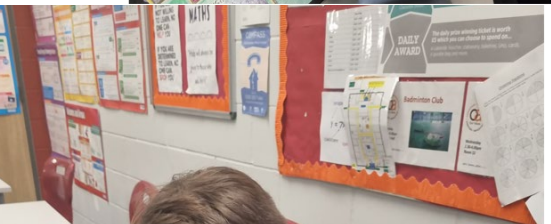
Evidence of students applying knowledge to solve a variety of complex problems.



Images show students engagement in Maths



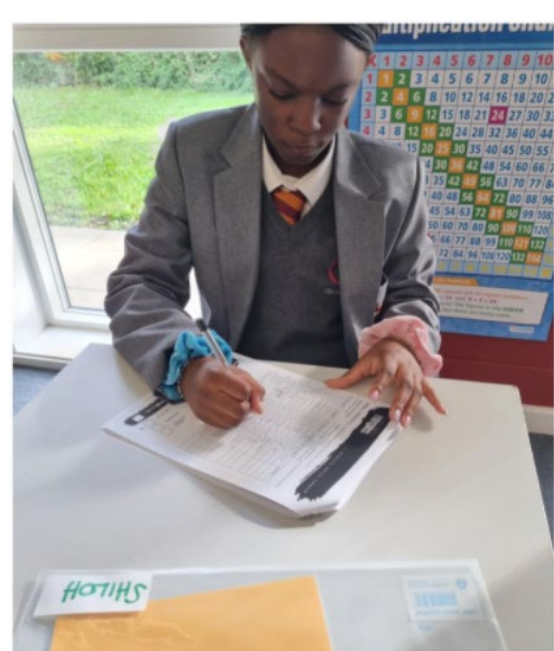
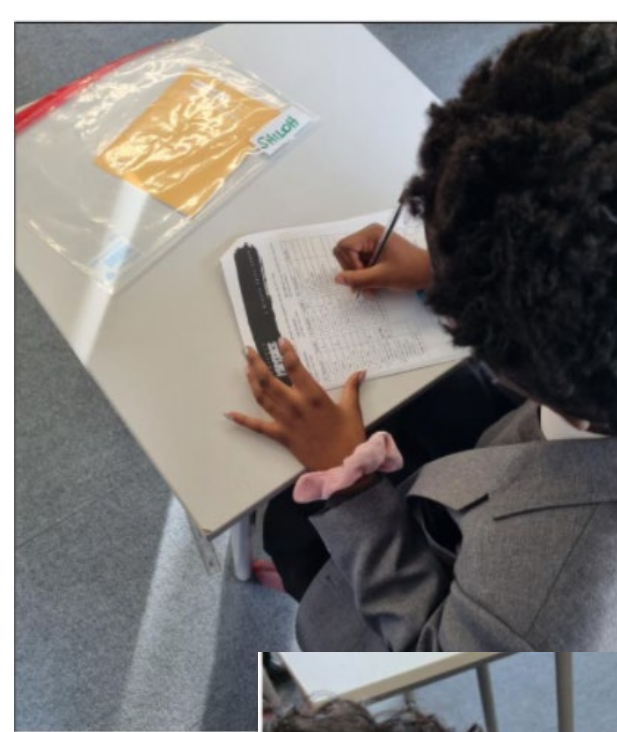
Reasoning, variation Mathematical thinking.



Application of knowledge and understanding in problem-solving: manipulation of number.

Demonstration of mastery.

Maths Ninja



Focus on challenge.

Conviction

Ambition

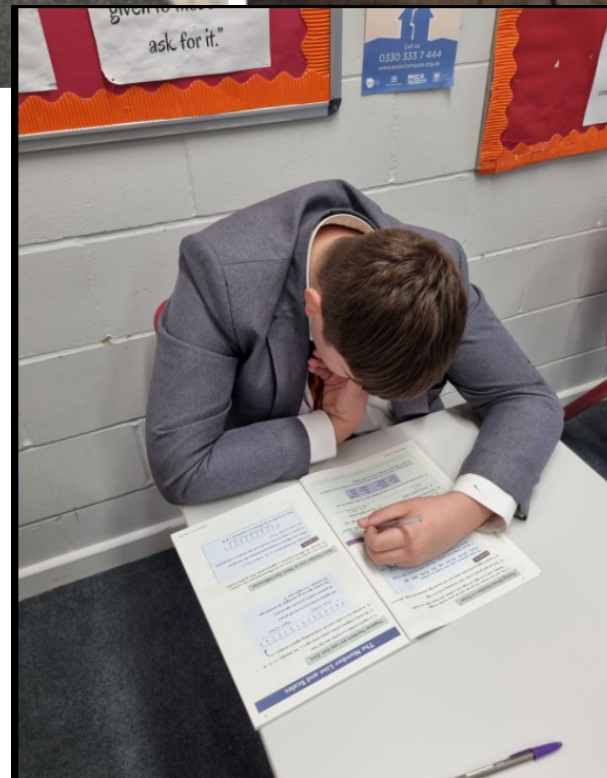
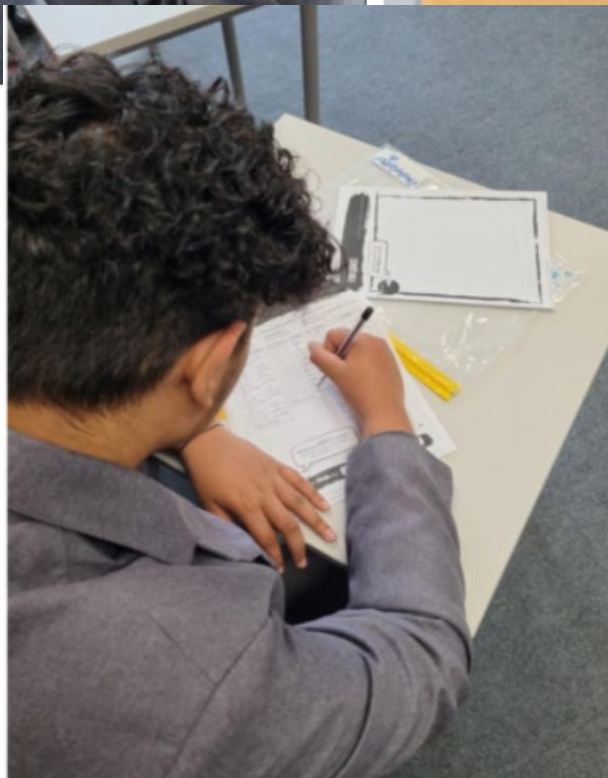
Reflection

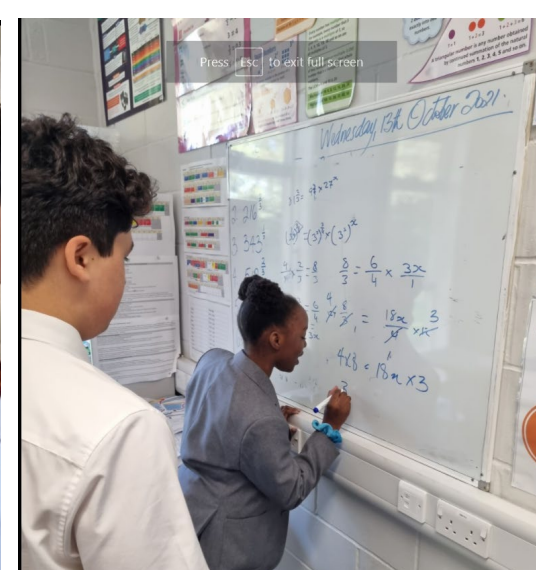
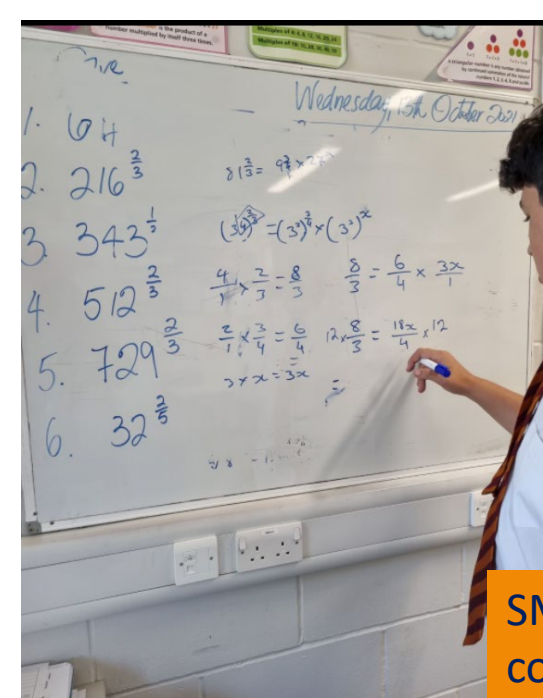
Determination

10A coaching group demonstrating their enjoyment of Maths.

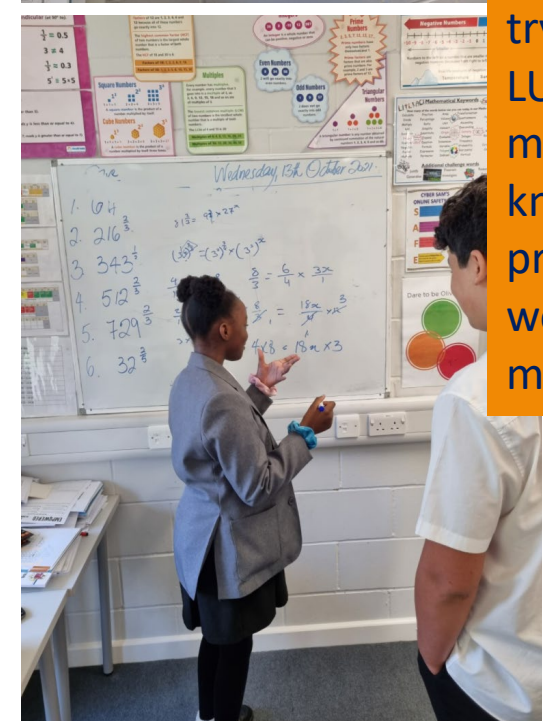
Demonstration of knowledge and skills.

Students working independently on Maths Ninja task during coaching time.

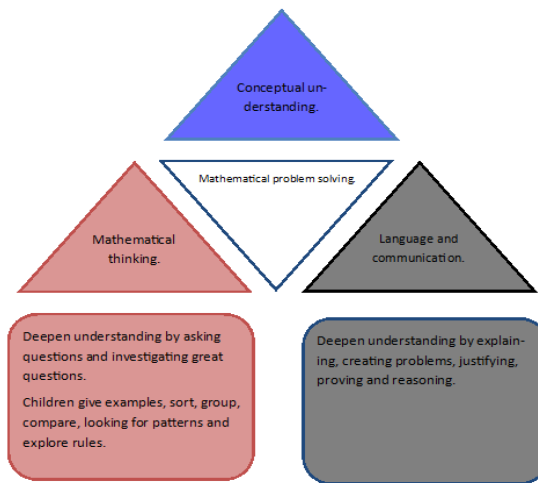




SM and LU working out complex questions. SM was trying to understand what LU was working on. They are making connections of knowledge gained to solve problems. Students were working independently of my instructions.

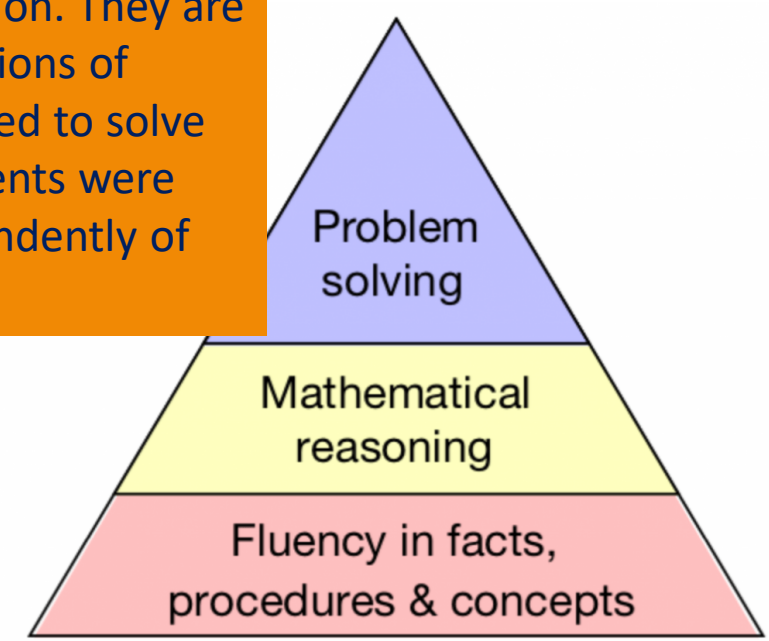


Representing concepts using objects, images, models, pictures and children make connections between areas of mathematics.

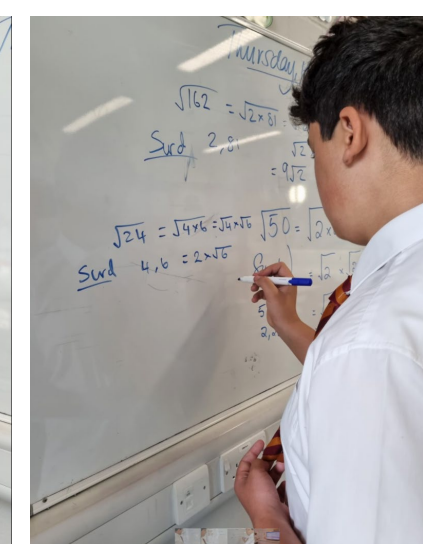
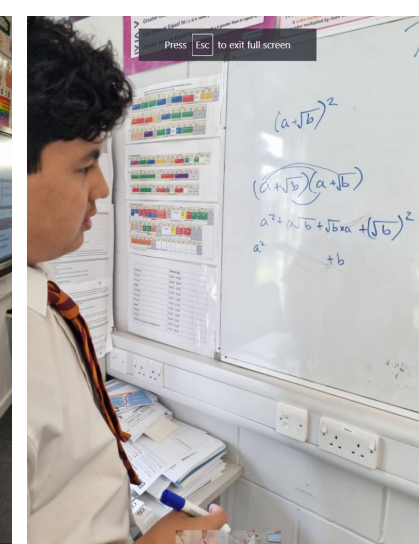
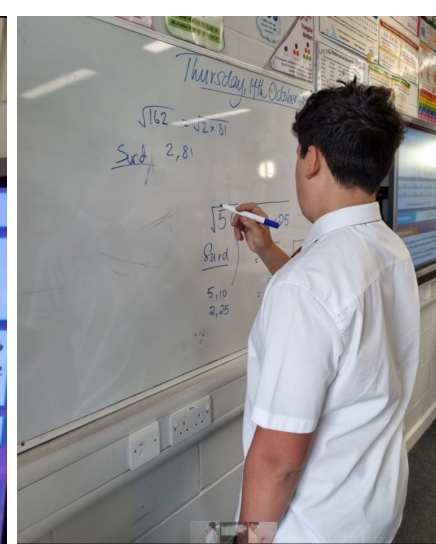
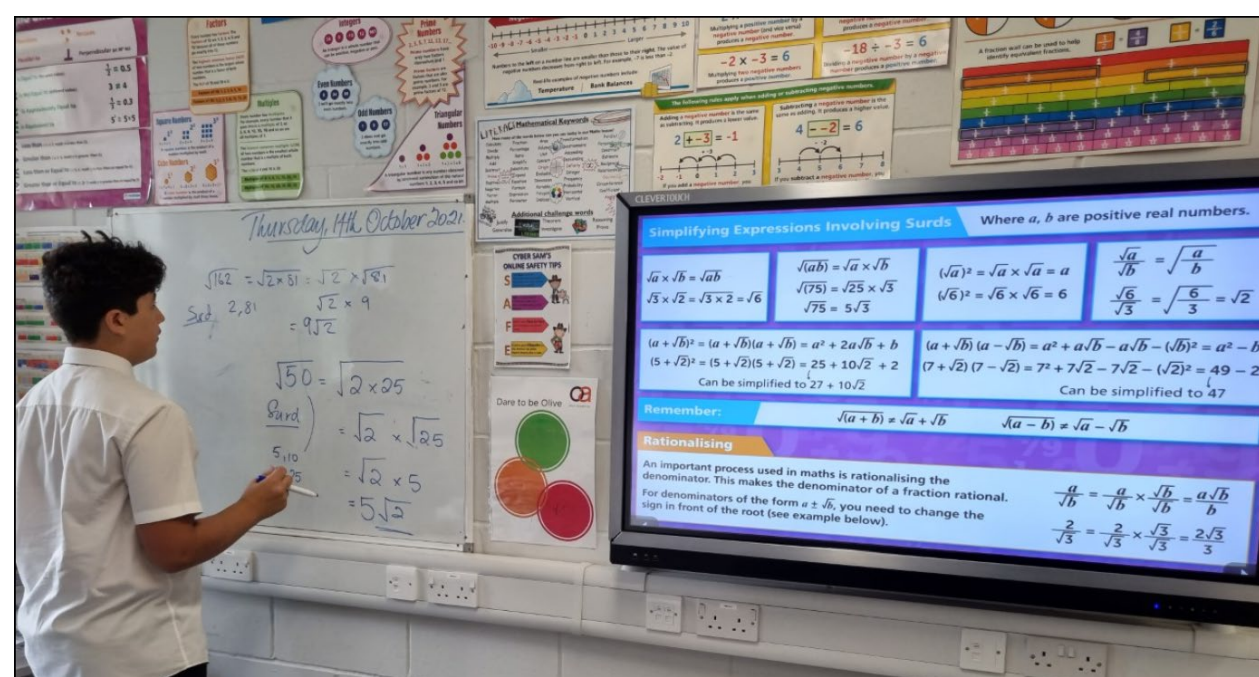


Why is mathematical reasoning important?

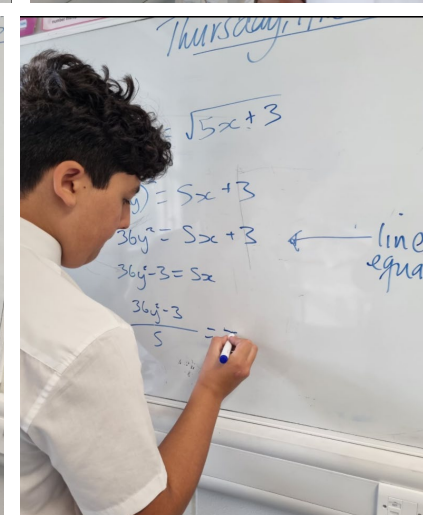
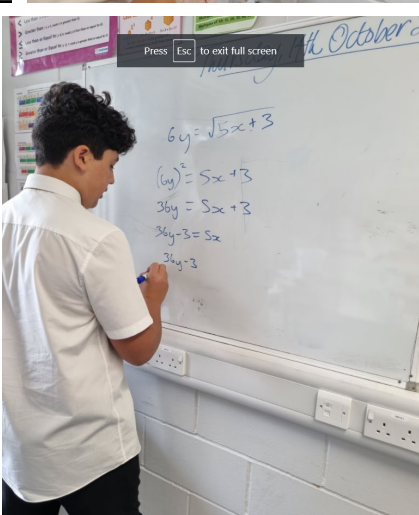
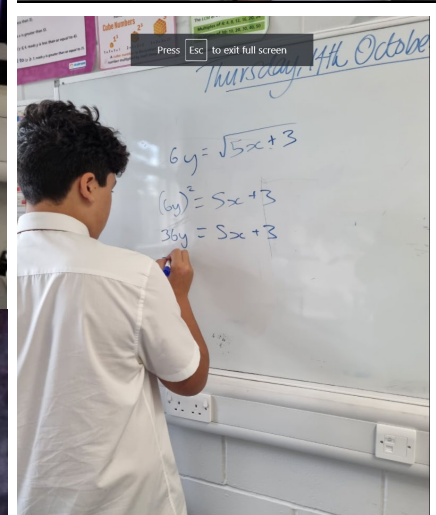
Mathematical reasoning is important as it **helps to develop critical thinking and understand Maths in a more meaningful way.** The concepts of reasoning not only helps the students to have a deeper understanding of the subject but also helps in having a wider perspective to logical statements.



Facilitate meaningful mathematical discourse	
Teacher and student actions	
What are teachers doing?	What are students doing?
<p>Engaging students in purposeful sharing of mathematical ideas, reasoning, and approaches, using varied representations.</p>	<p>Presenting and explaining ideas, reasoning, and representations to one another in pairs, small groups, or whole-class discourse.</p>
<p>Selecting and sequencing student approaches and solution strategies for whole-class analysis and discussion.</p>	<p>Listening carefully to and critiquing the reasoning of peers, using examples to support or counterexamples to refute arguments.</p>
<p>Facilitating discourse among students by positioning them as authors of ideas, who explain and defend their approaches.</p>	<p>Seeking to understand the approaches used by peers by asking clarifying questions, trying out others' strategies, and describing the approaches used by others.</p>
<p>Ensuring progress toward mathematical goals by making explicit connections to student approaches and reasoning.</p>	<p>Identifying how different approaches to solving a task are the same and how they are different.</p>



Rationalization, Substitution and simplification involving surds.



One to One session with LU an exceptional bright Year 9 MED student. He enjoys being challenged. During this session we recapped working on Algebraic fraction indices equations. The next step was working and solving surds. This is the Higher tier of Maths GCSE exam paper. He is then given the opportunity to check his answer.