Vyners School

Striving for Excellence

Welcome to the Maths Department

Our Key Stage 5 Curriculum

There are three mathematics courses offered by Vyners:

- A-Level Mathematics
- A-Level Further Mathematics

A-Level Mathematics

Students study towards a qualification with Edexcel.
All exams take place at the end of year 13.

The core covers three overarching areas of mathematics:

- Pure mathematics (66%)
- Statistics (17%)
- Mechanics (17%)

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A-Level Further Mathematics

Students will study towards two maths qualifications with Edexcel.
Further Mathematics is a second A-Level in mathematics, which adds depth and breadth of knowledge.

Students will study the content of the Maths A-Level in year 12 and the content of the Further Maths A-Level in year 13.
All exams for both A-Levels are sat at the end of year 13.

The Further Maths A-Level is 50% pure, 25% statistics and 25% mechanics.

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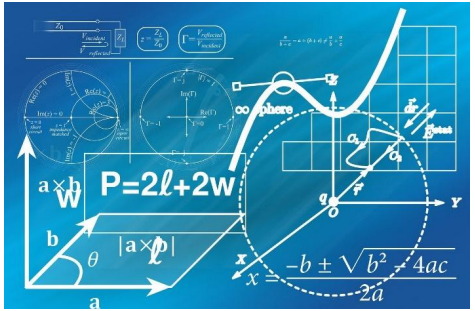
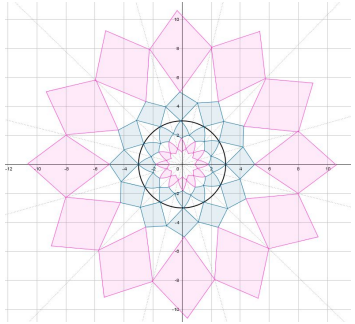
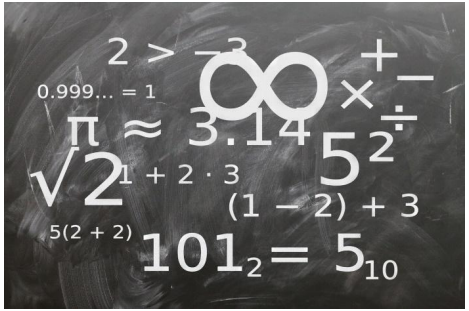
What is Pure Mathematics?

Methods and techniques which underpin the study of all other areas of mathematics, such as, proof, algebra, trigonometry, calculus, and vectors







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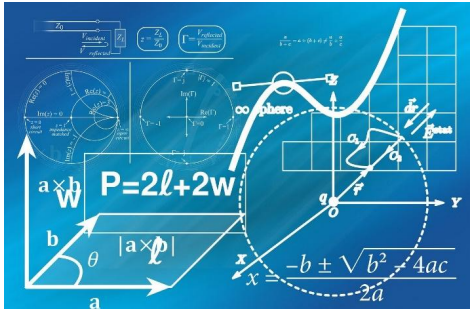
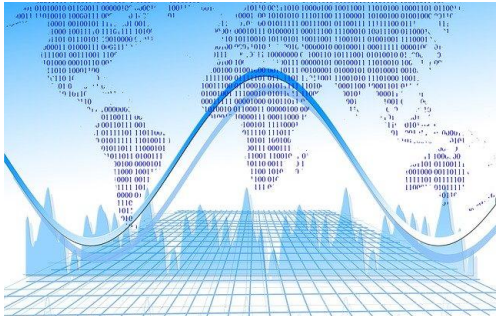


The points A and B have coordinates (4,-2) and (10,6) respectively.

Find the equation of the circle that has AB as a diameter.

What is Statistics?

Reaching conclusions from data and calculating the likelihood of an event occurring.



What is Statistics?

Reaching conclusions from data and calculating the likelihood of an event occurring.

What is the probability of two '100 year floods' happening within the space of 5 years?

What assumptions have you made?

"The majority of private sector organisations believe the use of data analytics will be the most important factor in increasing growth in UK businesses"

Professor Sir Adrian Smith

What is Mechanics?

The modelling of the world around us, the motion of objects and the forces acting on them.

Students planning careers in physics or engineering would find mechanics particularly useful.

What is Mechanics?

The modelling of the world around us, the motion of objects and the forces acting on them.

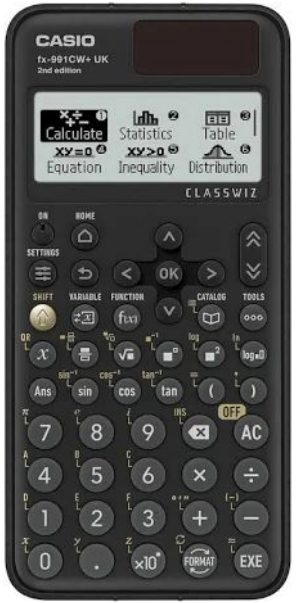
A golfer drives their ball from a tee on horizontal ground so that it has an initial velocity of $50ms^{-1}$ at an angle of 40 degrees above the horizontal.

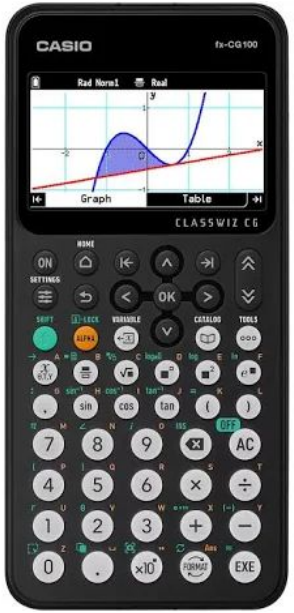
How far down the fairway will the ball land?

Calculator

All students will be required to have a casio ClassWiz (fx-991EX) or a graphical Casio calculator.

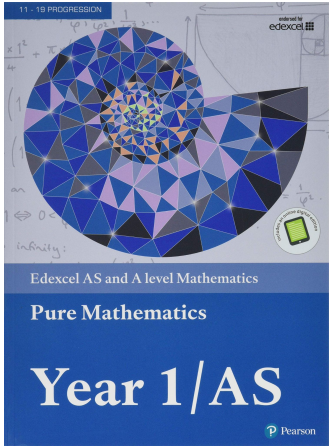
You will be able to order one through the school at the start of term

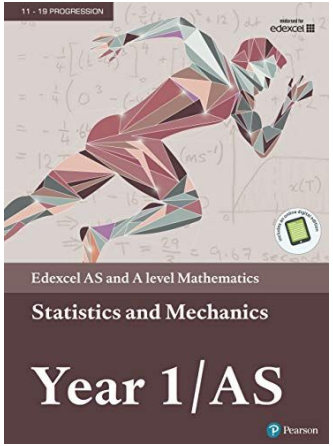




Textbooks

We use a series of textbooks published by Pearson. They will be available for students to access online, so there is no expectation that students purchase them.





How to prepare

Complete all preparation activities detailed on the bridging google classroom

Explore the Nrich website for problem solving activities

Read articles in plus magazine

You will need a A4 ringbinder folder and dividers

What our students say:

"Over the summer, focus on higher grade algebra concepts like index laws as well as surds."

"Do the bridging exercises over the summer time - do not leave it to the last two days of summer!"

"Practice different ways of taking notes - figure out what is best for you."

"Find websites with exam questions on them and revise from those for tests."

What our students say:

"I did a lot of the summer work and that really helped me when I started. I did the transition Sparx tasks in the summer as well as the work set and both made my start to Year 12 a lot easier."

"Stay on top of your work from the start of Year 12"

"Enjoy the first units - it only gets harder."

We look forward to meeting you next September!