Y13 Maths

Presentation to families

Where we are

- Some topics not taught sufficiently summer 2024
- Some staff absence
- Some students lack of preparation and practice

Resulting in

- Limited time to complete final topics
- More practise of exam questions needed
- Some students additional support

What we are providing: additional teaching & practise

Monday & Thursday 30 minute sessions, 8:45 to 9:15, each week in G7
to teach integration skills earlier than originally planned (all students except Further Mathematicians expected to attend)

After school sessions, 3:15 to 4:15, Tuesday with Mr Flack, Wednesday with Mrs Hailey
continue to reteach and practise recent topics (students can attend one or both of these)

Monday 31 March Maths Day, 3 lessons of Maths, focused on mechanics and integration
led by a teacher Mrs Doyle, from another Trust school - this is akin to a revision day, but at no cost to students and no time travelling

4 mornings during Easter holidays Thurs 10 & Fri 11, Mon 14 & Tues 15 April
delivered by Mr Flack to focus on exam question practise especially around integration

Changes from staff

Clear plan of topic and activities up until the exam

Lessons start with a clear introductory or retrieval activity

Lessons include explicit instruction on exam questions
these are pre-prepared in packs for students

Staff absence to be covered by other A Level Teachers

Clear and positive communication

Mr Flack dflack@tgschool.net and Mrs Hailey ahailey@tgschool.net
at any point for further information & support

Mr Johnston mjohnston@tgschool.net & Mr Ryall cryall@tgschol.net
if you have questions about the delivery of Maths

Mr Alexander, kalexander@tgschool.net for wider student related issues.

Assessment reminders

Component	Overview	Assessment
Paper 1: Pure Mathematics	Any pure mathematics content can be assessed on either paper	2 hours 100 marks
Paper 2: Pure Mathematics		2 hours 100 marks
Paper 3: Statistics and Mechanics	Section A: Statistics (50 marks) Section B: Mechanics (50 marks)	2 hours 100 marks

Practising content

Completing exam questions

What students should do

Some students are in a strong position

Responding to feedback and mocks
Use UpLearn to review skills, then practise questions on weaker topics - Directed Study, or attendance at other Maths lessons can be used for this

All students should check their organisation
of notes, exercises and assessments returned. Group these into Pure, Statistics and Mechanics folders. Recommendation is A4 and punched squared paper.

Complete set tasks from homework

Students use Red Amber Green sheets from mocks (and other feedback) to ***identify areas to improve*** *>* ***use Up Learn*** *for teaching and knowledge quizzes*
> ***then Exam Questions by topic***

Exam Papers for those already confident

Dr Frost is an alternative option for self marking

Attend planned sessions
For some students this will be required

Keep asking questions and plan independent revision

How families can support

Keep the communication going

Ask students how things are going, and what they might need
Ask teachers if more guidance or information is needed

Help keep to routines

This might, for some, mean a check on what is set for the week,
and how their independent revision is progressing
Quiet space free from distractions

Access to resources

Organisation of notes & questions
Use of revision materials

Health & wellbeing

Students earn trust
Maintain connections
Develop independence

What we are providing: Other resources

UpLearn- this is the required resource for students in response to assessments, where they can combine teaching and practise: web.uplearn.co.uk/login

Mr Man's video checklist (TL Maths on Youtube most comprehensive):
mrmanmaths.wordpress.com/2023/11/20/pearson-edexcel-alevel-maths-checklist/

Sets of revision books and papers provided

Access to a shared Google Classroom
for questions, reminders and resources

yjamk42
Can join from app or website

Padlet available of other resources, linked from Google Classroom:
https://padlet.com/cryall/a-level-maths-edexcel-8ebko594z1tgfa4l

Questions?

Time to speak to staff individually

	TGS A Level Maths Plan	Lessons include starters on previous or connected topics, and exam questions - students are in either group A or D						
	Registration 30 mins	Period 1	Period 2	Period 3	After School & Other Activities	Topics being taught by AHA	Topics being taught by DFL	Registration
Mon 10 Mar		C	A - Ma (AHA, G7)	B	*Barcelona Trip for 4 from 13A*	3.1 The normal distribution 3.2 Finding probabilities for the normal distribution 3.3 The inverse normal distribution function 3.4 Standard normal distribution 3.5 Finding (miu) and (sigma)	7.6 Connected particles	11.1 Integrating standard functions
Tue 11 Mar		E	B	A - Ma (AHA, G7)	**Mechanics (DFL, G7)**			
Wed 12 Mar		D - Ma (DFL, G7)	C	B	**Statistics (AHA, G7)**			
Thu 13 Mar	**Integration 1.1 (DFL, G7)**	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)				
Fri 14 Mar		C	D - Ma (AHA, G7)	E				
Sat 15 Mar								
Sun 16 Mar								
Mon 17 Mar	**Integration 1.2 (DFL, G7)**	A - Ma (AHA, G7)	B	C		3.6 Approximating a binomial distribution 3.7 Hypothesis testing with the normal distribution	12.1 3D coordinates 12.2 Vectors in 3D (started) 12.3 Solving geometrical problems 12.4 Applications to mechanics	11.1 Integrating standard functions 11.2 Integrating f(ax+b)
Tue 18 Mar		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	**Mechanics (DFL, G7)**			
Wed 19 Mar		C	B	D - Ma (AHA, G7)	**Statistics (AHA, G7)**			
Thu 20 Mar	**Integration 1.2 (DFL, G7)**	E	B	C				
Fri 21 Mar		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)				
Sat 22 Mar								
Sun 23 Mar								
Mon 24 Mar	**Integration 1.3 (DFL, G7)**	C	A - Ma (AHA, G7)	B	*Econo & Psyc Trip (4 from 13A)*	11.4 Reverse chain rule 11.6 Integration by parts	1.1 Proof by contradiction	11.3 Using trigonometric identities
Tue 25 Mar		E	B	A - Ma (AHA, G7)	**Mechanics (DFL, G7)**			
Wed 26 Mar		D - Ma (DFL, G7)	C	B	**Statistics (AHA, G7)**			
Thu 27 Mar	**Integration (DFL, G7)**	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)				
Fri 28 Mar		C	D - Ma (AHA, G7)	E				
Sat 29 Mar								
Sun 30 Mar								
Mon 31 Mar	**Maths Day**	**A - Ma (AHA, G7)**	B	C	**Maths Supported Day** 11.5 Integration by substitution; Review Mechanics			Checks on integration
Tue 1 Apr		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	**Integration (DFL, G7)**	11.7 Partial fractions 11.8 Finding areas (including parametric curves) 11.10 Solving differential equations 11.11 Modelling with differential equations		
Wed 2 Apr		C	B	D - Ma (AHA, G7)	**Integration (AHA, G7)**			
Thu 3 Apr	**Integration (DFL, G7)**	E	B	C				
Fri 4 Apr		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)				
Sat 5 Apr								
Sun 6 Apr								
Mon 7 Apr	**Integration (DFL, G7)**	C	A - Ma (AHA, G7)	B	KS3 Enrichment	Revision starts		
Tue 8 Apr		E	B	A - Ma (AHA, G7)	**Support (DFL, G7)**			

	TGS A Level Maths Plan	Lessons include starters on previous or connected topics, and exam questions - students are in either group A or D			
	Registration 30 mins	Period 1	Period 2	Period 3	After School & Other Activities
Mon 10 Mar		C	A - Ma (AHA, G7)	B	*Barcelona Trip for 4 from 13A*
Tue 11 Mar		E	B	A - Ma (AHA, G7)	Mechanics (DFL, G7)
Wed 12 Mar		D - Ma (DFL, G7)	C	B	Statistics (AHA, G7)
Thu 13 Mar	Integration 1.1 (DFL, G7)	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)	
Fri 14 Mar		C	D - Ma (AHA, G7)	E	
Sat 15 Mar					
Sun 16 Mar					
Mon 17 Mar	Integration 1.2 (DFL, G7)	A - Ma (AHA, G7)	B	C	
Tue 18 Mar		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Mechanics (DFL, G7)
Wed 19 Mar		C	B	D - Ma (AHA, G7)	Statistics (AHA, G7)
Thu 20 Mar	Integration 1.2 (DFL, G7)	E	B	C	
Fri 21 Mar		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)	
Sat 22 Mar					
Sun 23 Mar					
Mon 24 Mar	Integration 1.3 (DFL, G7)	C	A - Ma (AHA, G7)	B	*Econo & Psyc Trip (4 from 13A)*
Tue 25 Mar		E	B	A - Ma (AHA, G7)	Mechanics (DFL, G7)
Wed 26 Mar		D - Ma (DFL, G7)	C	B	Statistics (AHA, G7)
Thu 27 Mar	Integration (DFL, G7)	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)	
Fri 28 Mar		C	D - Ma (AHA, G7)	E	
Sat 29 Mar					
Sun 30 Mar					
Mon 31 Mar	Maths Day	A - Ma (AHA, G7)	B	C	Maths Supported Day 11.5 Integration by substitution; Review Mechanics
Tue 1 Apr		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Integration (DFL, G7)
Wed 2 Apr		C	B	D - Ma (AHA, G7)	Integration (AHA, G7)
Thu 3 Apr	Integration (DFL, G7)	E	B	C	
Fri 4 Apr		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)	
Sat 5 Apr					
Sun 6 Apr					
Mon 7 Apr	Integration (DFL, G7)	C	A - Ma (AHA, G7)	B	KS3 Enrichment
Tue 8 Apr		E	B	A - Ma (AHA, G7)	Support (DFL, G7)
Wed 9 Apr					
Thu 10 Apr					10 AM to 1PM (DFL, G7)
Fri 11 Apr					10 AM to 1PM (DFL, G7)
Sat 12 Apr					
Sun 13 Apr					
Mon 14 Apr					10 AM to 1PM (DFL, G7)
Tue 15 Apr					10 AM to 1PM (DFL, G7)
Wed 16 Apr					
Thu 17 Apr					
Fri 18 Apr					Bank Holiday
Sat 19 Apr					
Sun 20 Apr					
Mon 21 Apr					Bank Holiday
Tue 22 Apr		E	B	A - Ma (AHA, G7)	Support (DFL, G7)
Wed 23 Apr		D - Ma (DFL, G7)	C	B	Support (AHA, G7)
Thu 24 Apr	Exam Practise (DFL, G8)	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)	
Fri 25 Apr		C	D - Ma (AHA, G7)	E	
Sat 26 Apr					
Sun 27 Apr					
Mon 28 Apr	Exam Practise (DFL, G8)	A - Ma (AHA, G7)	B	C	
Tue 29 Apr		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Support (DFL, G7)
Wed 30 Apr		C	B	D - Ma (AHA, G7)	Support (AHA, G7)
Thu 1 May	Exam Practise (DFL, G8)	E	B	C	
Fri 2 May		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)	

	TGS A Level Maths Plan	Lessons include starters on previous or connected topics, and exam questions - students are in either group A or D			
	Registration 30 mins	Period 1	Period 2	Period 3	After School & Other Activities
Sat 3 May					
Sun 4 May					
Mon 5 May					Bank Holiday
Tue 6 May		E	B	A - Ma (AHA, G7)	Support (DFL, G7)
Wed 7 May		D - Ma (DFL, G7)	C	B	Support (AHA, G7)
Thu 8 May	Exam Practise (DFL, G8)	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)	
Fri 9 May		C	D - Ma (AHA, G7)	E	
Sat 10 May					
Sun 11 May					
Mon 12 May	Exam Practise (DFL, G8)	A - Ma (AHA, G7)	B	C	A Level Exams start
Tue 13 May		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Support (DFL, G7)
Wed 14 May		C	B	D - Ma (AHA, G7)	Support (AHA, G7)
Thu 15 May	Exam Practise (DFL, G8)	E	B	C	
Fri 16 May		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)	
Sat 17 May					
Sun 18 May					
Mon 19 May	Exam Practise (DFL, G8)	C	A - Ma (AHA, G7)	B	
Tue 20 May		E	B	A - Ma (AHA, G7)	Support (DFL, G7)
Wed 21 May		D - Ma (DFL, G7)	C	B	Support (AHA, G7)
Thu 22 May	Exam Practise (DFL, G8)	A - Ma (DFL, G7)	E	D - Ma (AHA, G7)	
Fri 23 May		C	D - Ma (AHA, G7)	E	
Sat 24 May					
Sun 25 May					
Mon 26 May					Bank Holiday
Tue 27 May					*Dates considered if needed*
Wed 28 May					
Thu 29 May					
Fri 30 May					
Sat 31 May					
Sun 1 Jun					
Mon 2 Jun	Exam Practise (DFL, G8)	A - Ma (AHA, G7)	B	C	
Tue 3 Jun		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Support (DFL, G7)
Wed 4 Jun		C	B	Paper 1 Pure PM	
Thu 5 Jun	Exam Practise (DFL, G8)	E	B	C	
Fri 6 Jun		A - Ma (DFL, G7)	E	D - Ma (DFL, G7)	
Sat 7 Jun					
Sun 8 Jun					
Mon 9 Jun	Exam Practise (DFL, G8)	C	A - Ma (AHA, G7)	B	
Tue 10 Jun		E	B	A - Ma (AHA, G7)	Support (DFL, G7)
Wed 11 Jun		D - Ma (DFL, G7)	C	B	Support (AHA, G7)
Thu 12 Jun	Exam Practise (DFL, G8)	A - Ma (DFL, G7)	E	Paper 2 Pure PM	
Fri 13 Jun		C	D - Ma (AHA, G7)	E	
Sat 14 Jun					
Sun 15 Jun					
Mon 16 Jun	Exam Practise (DFL, G8)	A - Ma (AHA, G7)	B	C	
Tue 17 Jun		A - Ma (DFL, G7)	D - Ma (DFL, G7)	E	Support (DFL, G7)
Wed 18 Jun		C	B	D - Ma (AHA, G7)	Support (AHA, G7)
Thu 19 Jun	Exam Practise (DFL, G8)	E	B	Paper 3 Applied PM	
Fri 20 Jun		A	E	D	

A Level Maths Year 1/AS Checklist

Pure

- ☐ Surds and indices
- ☐ Algebraic expressions
- ☐ Equations and inequalities
- ☐ The discriminant
- ☐ Sketching graphs
- ☐ Transformations of functions
- ☐ Coordinate geometry
- ☐ The equation of a circle and use of circle theorems
- ☐ The factor theorem and dividing polynomials
- ☐ Year 1 methods of proof & disproof
- ☐ Binomial expansion with positive integer powers
- ☐ Trigonometry with triangles
- ☐ Year 1 trigonometric equations & identities
- ☐ Year 1 vectors
- ☐ Differentiation from first principles
- ☐ Year 1 differentiation of functions
- ☐ Finding tangents and normals
- ☐ Stationary points
- ☐ Year 1 integration of functions
- ☐ Area under curves
- ☐ Exponential functions and e^x
- ☐ Logarithms
- ☐ Natural logarithms
- ☐ Logarithms and non-linear data

Statistics

- ☐ Populations and sampling
- ☐ Median, quartiles and percentiles
- ☐ Box plots
- ☐ Histograms
- ☐ Variance and standard deviation
- ☐ Interpolation
- ☐ Coding
- ☐ Outliers
- ☐ Histograms
- ☐ Correlation, regression and outliers
- ☐ Year 1 probability
- ☐ Discrete random variables
- ☐ The binomial distribution
- ☐ Hypothesis testing with discrete data

Mechanics

- ☐ Modelling in mechanics
- ☐ Displacement-time & velocity-time graphs
- ☐ Constant acceleration (SUVAT) equations
- ☐ Vertical motion under gravity
- ☐ Forces and Newton's laws
- ☐ Use of vectors
- ☐ Connected particles
- ☐ Pulleys
- ☐ Variable acceleration in 1D

A Level Maths Year 2 Checklist

Pure

- ☐ Proof by contradiction
- ☐ Standard proofs
- ☐ Partial Fractions
- ☐ Algebraic division
- ☐ The modulus function
- ☐ Modulus transformations
- ☐ Functions and mappings
- ☐ Arithmetic sequences/series
- ☐ Geometric sequences/series
- ☐ Sigma notation
- ☐ Recurrence relations
- ☐ Year 2 binomial expansion
- ☐ Radians and applications
- ☐ Small angle approximations
- ☐ Reciprocal trig functions
- ☐ Pythagorean identities
- ☐ Inverse trig functions
- ☐ Addition formulae
- ☐ Double angle formulae
- ☐ Year 2 trig equations
- ☐ Harmonic identities
- ☐ Parametric equations
- ☐ Derivatives of sin(x) & cos(x) from first principles
- ☐ Derivatives of standard functions
- ☐ The chain rule
- ☐ The product rule
- ☐ The quotient rule
- ☐ Parametric differentiation
- ☐ Implicit differentiation
- ☐ Concave/convex functions and points of inflection
- ☐ Rates of change
- ☐ Locating roots
- ☐ Iteration
- ☐ The Newton-Raphson method
- ☐ Integrating standard functions
- ☐ Integrating f(ax+b)
- ☐ Integration using trig identities
- ☐ Integration by substitution
- ☐ Integration by parts
- ☐ Integration using partial fractions
- ☐ Integration by inspection
- ☐ Parametric integration
- ☐ The trapezium rule
- ☐ Solving differential equations
- ☐ 3D coordinates and vectors
- ☐ Geometric vector problems

Statistics

- ☐ Non-linear regression
- ☐ Measuring correlation
- ☐ Hypothesis testing for correlation
- ☐ Year 2 probability
- ☐ The normal distribution
- ☐ Approximating a binomial distribution
- ☐ Hypothesis testing with the normal distribution

Mechanics

- ☐ Moments
- ☐ Resolving forces (inclined planes)
- ☐ Friction
- ☐ Projectiles
- ☐ Statics
- ☐ Rigid bodies/moments
- ☐ Dynamics
- ☐ Vectors in kinematics
- ☐ Variable acceleration in 2D