Spring Term plan

Year 13 Mathematics A Level

Week	Mrs Laidler/Mr Bullock	Mrs Loveridge/Mr Ahluwalia
25/1	**Statics** Understanding that there is a maximum value that Friction can take when an object is on the point of moving. Finding unknown forces when a system is at rest.	**Statistics** Feedback and review of statistics test (There will be a week working on the Large Data Set once back in school)
1/2	**Dynamics** Finding unknown forces when a system has constant acceleration, including the use of the SUVAT equations. Solving differential equations arising from F=ma	**Numerical Methods** Locate roots of f(x) = 0 by considering changes of sign of f(x) in an interval of x on which f(x) is sufficiently well-behaved Understand how change of sign methods can fail
8/2	**Moments** Looking at taking moments about points and resolving to find unknown forces	**Numerical Methods** Solve equations approximately using simple iterative methods; be able to draw associated cobweb and staircase diagrams. Solve equations using the Newton-Raphson method and other recurrence relations of the form $x_{n+1} = g(x_n)$. Understand how such methods can fail
15/2	Half Term	
22/2	**Forces review**	**Numerical Methods** Understand and use numerical integration of functions, including the use of the trapezium rule and estimating the approximate area under a curve and limits that it must lie between. Use numerical methods to solve problems in context
1/3	Mechanics revision	Assessment of numerical methods
8/3	Mechanics test	**Proof** Proof by contradiction (including proof of the irrationality of root 2 and the infinity of primes, and application to unfamiliar proofs)
15/3	Feedback and review	Core Revision begins
22/3	End of content – Review and preparation for assessment begins. This will include past papers to help bring all the topics together and help with increasing fluency of the work covered over the last two years	