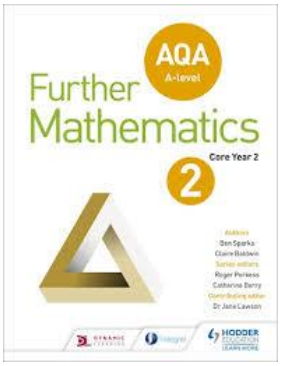
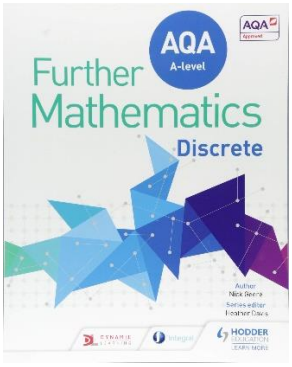
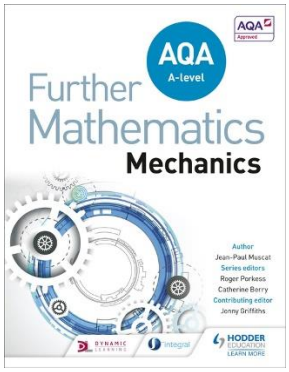
Belper School Maths on-line learning programme **Year 13**

A-level Further Mathematics

The Year 13 scheme of learning for Further Mathematics broadly follows the AQA textbooks that you have been allocated by the department. As such, your first point of reference for each topic area will be the page numbers as indicated on the following pages in the programmes for each term. It is important that you read through the explanatory material and examples, making your own notes as you proceed through each section. It is also vital that your try questions from the exercises, checking your answers in the back of the book (focus on the green and yellow questions initially with the red ones being the most challenging!) At any stage, please do contact your teacher if you have any questions regarding the content or if you are struggling to access the work.







As well as the textbooks, there are a number of other on-line resources that you could use and these are listed below. My advice would be to start with the textbook, follow it up with using the Mymaths website (when applicable) and then consolidate your learning by using the Integral website which will give you plenty of extra questions to work through! Your teacher is likely to contact you with advice about which resource might fit a particular topic best and/or provide you with additional material so please check your e-mails regularly!

MyMaths.co.uk

MyMaths (www.mymaths.co.uk) login: belper and password: shape. Just remember to select 'A-level' in the drop down menu in the top left of the screen. MyMaths is particularly useful for further explanation of content. Just be careful though as the material is not broken down into AS and A-level so be sure that the content matches what is in your textbook. If unsure, please do contact your teacher.

integral®

Integral (https://integralmaths.org/). You have already been sent your login and password details but please contact your teacher if you problems logging in. This is a fantastic website with lots of high quality resources including videos, modelled solutions and many, many questions. It is broken down into AS and A-level content and optional links to the **resources section** are included below - please do use them!

Week Number	Textbook	Year 13 Autumn Term FURTHER MATHS Page References
1 2 3	Pure	**Eigenvalues and eigenvectors: p176-p190** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2494 **Vectors 1: p1-p24** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2273 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2274
4 5	Pure	**Vectors 2: p330-p351** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2303
	Discrete	**Isomorphisms and Kuratowski's theorem: p13-p21** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3609
6 7	Pure	**Algebra and graphs: p105-p127** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2490
	Discrete	**Network flows: p79-p88** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3610
8 9 10	Pure	**Series and limits: p157-p171** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2487 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2288
	Discrete	**Simplex algorithm: p48-p56** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3611 **Converting games to linear programming problems: p100-p104** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3612
11 12	Pure	**Hyperbolic functions: p198-p213** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2291 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2292
	Discrete	**Group theory: p112-p120** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3613 https://2017.integralmaths.org/course/view.php?id=41&sectionid=3614
13 14	Pure	**Calculus techniques: p133-p145** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2283 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2488
	Discrete	**Gantt charts and resource histograms: p67-p73** https://2017.integralmaths.org/course/view.php?id=41&sectionid=3615

Week Number	Textbook	Year 13 Spring Term FURTHER MATHS Page References
15 16 17	Pure	**Applications of calculus: p128-p133, p147-p155 & p217-p238** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2282 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2285 https://2017.integralmaths.org/course/view.php?id=42&sectionid=4014 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2295 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2294
	Mechanics	**Dimensional analysis: p201-p212** https://2017.integralmaths.org/course/view.php?id=39&sectionid=1462 **Work, energy and power: p91-p119** https://2017.integralmaths.org/course/view.php?id=39&sectionid=2059
18 19	Pure	**Numerical techniques: p277-p296** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2496 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2497
	Mechanics	**Impulse and momentum: p120-p154** https://2017.integralmaths.org/course/view.php?id=39&sectionid=2060
20 21	Pure	**First order differential equations: p247-p273** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2297 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2298
	Mechanics	**Circular motion: p163-p166 & p289-p306** https://2017.integralmaths.org/course/view.php?id=39&sectionid=2053 https://2017.integralmaths.org/course/view.php?id=39&sectionid=2054
22 23 24 25	Pure	**Second order differential equations: p353-p400** https://2017.integralmaths.org/course/view.php?id=42&sectionid=2306 https://2017.integralmaths.org/course/view.php?id=42&sectionid=4226 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2307 https://2017.integralmaths.org/course/view.php?id=42&sectionid=2286
	Mechanics	**Moments: p217-p244** https://2017.integralmaths.org/course/view.php?id=39&sectionid=2057 https://2017.integralmaths.org/course/view.php?id=39&sectionid=2058 **Centres of mass: p245-p288** https://2017.integralmaths.org/course/view.php?id=39&sectionid=2055 https://2017.integralmaths.org/course/view.php?id=39&sectionid=2056 https://2017.integralmaths.org/course/view.php?id=39&sectionid=3471

Week Number	Year 13 Summer Term FURTHER MATHS Page References
26 27	This is time dedicated to completing any remaining content from the course or to begin your revision programme.
	At this stage, you should begin your A-level examination preparation. It may be that your teacher has already given you a series of examination papers to work through and I would advise you to work steadily through these. If you do not have these papers, please follow the links below as they will take you directly to WebLearn (Belper School VLE) where you can enter your usual login details and access past papers and mark schemes directly. **https://moodle.belperschool.co.uk/course/view.php?id=81**