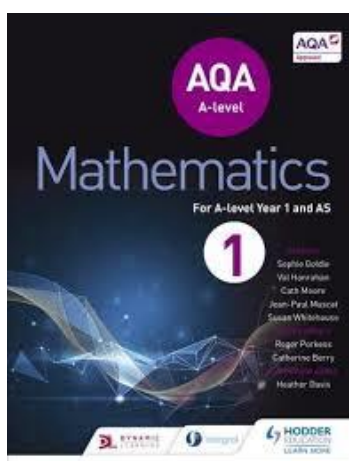


AS Mathematics

The Year 12 scheme of learning for Mathematics broadly follows the AQA textbook 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 you try questions from the exercises (focus on the green and yellow questions initially with the red ones being the most challenging!) checking your answers in the back of the book. 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 textbook, 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 (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 (<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	Year 12 Autumn Term MATHS Page References
1 2	Co-ordinate geometry of straight lines: p66-p80 https://2017.integralmaths.org/course/view.php?id=22&sectionid=528 Surds and indices: p20-p31 https://2017.integralmaths.org/course/view.php?id=22&sectionid=516 https://2017.integralmaths.org/course/view.php?id=22&sectionid=517
3 4	Mathematical modelling & proof: p4-p15 https://2017.integralmaths.org/course/view.php?id=22&sectionid=513 https://2017.integralmaths.org/course/view.php?id=22&sectionid=514 Quadratic functions: p32-p52 https://2017.integralmaths.org/course/view.php?id=22&sectionid=520 https://2017.integralmaths.org/course/view.php?id=22&sectionid=521
5 6	The Circle: p80-p91 https://2017.integralmaths.org/course/view.php?id=22&sectionid=529 Inequalities: p59-p63 https://2017.integralmaths.org/course/view.php?id=22&sectionid=525 Polynomials: p131-146 https://2017.integralmaths.org/course/view.php?id=22&sectionid=537 https://2017.integralmaths.org/course/view.php?id=22&sectionid=538
7 8	Trigonometric graphs and functions p100-p105 Sine and cosine rule p118-p128 https://2017.integralmaths.org/course/view.php?id=22&sectionid=534 Transformations of graphs p155-p170 https://2017.integralmaths.org/course/view.php?id=22&sectionid=542
9 10 11	Trigonometric identities and equations p105-p118 https://2017.integralmaths.org/course/view.php?id=22&sectionid=532 https://2017.integralmaths.org/course/view.php?id=22&sectionid=533 Graphs of other functions: p149-p155 https://2017.integralmaths.org/course/view.php?id=22&sectionid=541 Simultaneous equations: p54-p58 https://2017.integralmaths.org/course/view.php?id=22&sectionid=524
12 13 14	Exponentials and logarithms: p264-p273 https://2017.integralmaths.org/course/view.php?id=22&sectionid=562 Basic differentiation: p191-p198 https://2017.integralmaths.org/course/view.php?id=22&sectionid=548 https://2017.integralmaths.org/course/view.php?id=22&sectionid=550 Differentiation from first principles: p221-p225

Week Number	Year 12 Spring Term MATHS Page References
15 16 17	<p>The exponential function: p273-p286 https://2017.integralmaths.org/course/view.php?id=22&sectionid=563 https://2017.integralmaths.org/course/view.php?id=22&sectionid=564</p> <p>The binomial expansion: p172-p185 https://2017.integralmaths.org/course/view.php?id=22&sectionid=545</p> <p>Applications of differentiation: p198-p221 https://2017.integralmaths.org/course/view.php?id=22&sectionid=549 https://2017.integralmaths.org/course/view.php?id=22&sectionid=551</p>
18 19 20	<p>Integration: p230-p245 https://2017.integralmaths.org/course/view.php?id=22&sectionid=554 https://2017.integralmaths.org/course/view.php?id=22&sectionid=555 https://2017.integralmaths.org/course/view.php?id=22&sectionid=556</p> <p>Population and sampling: p292-p304 https://2017.integralmaths.org/course/view.php?id=23&sectionid=570</p> <p>Vectors and vector geometry: p247-p263 https://2017.integralmaths.org/course/view.php?id=22&sectionid=559</p>
21 22 23	<p>Data Presentation and processing: p307-p349 https://2017.integralmaths.org/course/view.php?id=23&sectionid=571 https://2017.integralmaths.org/course/view.php?id=23&sectionid=572</p> <p>Probability: p350-p367 https://2017.integralmaths.org/course/view.php?id=23&sectionid=575 https://2017.integralmaths.org/course/view.php?id=23&sectionid=576</p> <p>Kinematics: p403-p433 https://2017.integralmaths.org/course/view.php?id=24&sectionid=588 https://2017.integralmaths.org/course/view.php?id=24&sectionid=589 https://2017.integralmaths.org/course/view.php?id=24&sectionid=590</p>
24 25	<p>Forces and Newton's laws of motion: p434-p467 https://2017.integralmaths.org/course/view.php?id=24&sectionid=593 https://2017.integralmaths.org/course/view.php?id=24&sectionid=594 https://2017.integralmaths.org/course/view.php?id=24&sectionid=595</p> <p>The Binomial distribution: p372-p381 https://2017.integralmaths.org/course/view.php?id=23&sectionid=579</p>

Week Number	Year 12 Summer Term MATHS Page References
26 27	<p>Hypothesis testing: p383-p397 https://2017.integralmaths.org/course/view.php?id=23&sectionid=582 https://2017.integralmaths.org/course/view.php?id=23&sectionid=583</p> <p>Variable acceleration: p472-p483 https://2017.integralmaths.org/course/view.php?id=24&sectionid=598</p>
28 29 30 31 32 33	<p>At this stage, you should begin your AS 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.</p> <p>https://moodle.belperschool.co.uk/course/view.php?id=80</p> <p>Once the exams are completed, you should resume the A-level course and will need the Year 13 book to access the references below. Please see your teacher if you need help with this.</p>
34	<p>Types of sequence: p36-p43 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1134</p> <p>Radians and arc lengths/sector areas: p12-p21 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1130</p>
35	<p>Arithmetic sequences: p43-p47 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1135</p> <p>Small angle approximations: p22-p25 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1131</p>
36 37	<p>Geometric sequences: p47-p55 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1136</p> <p>Trigonometric functions: p137-p148 https://2017.integralmaths.org/course/view.php?id=36&sectionid=1149</p>