

### GCSE Maths Topics Overview

Topics	DFM Key Skills	%
<b>1. Number</b>		
Number problems	37, 74, 75, 123, 125, 187	
Estimating	188	
HCF and LCM	53, 97, 161, 162	
Calculating with powers	136	
Zero, negative and fractional indices	191, 192, 196	
Standard form	302, 303, 304, 305	
Surds	335	
<b>2. Algebra</b>		
Algebraic Indices	191, 192, 196	
Expanding and factorising	252, 300, 363, 364	
Equations	199, 201	
Formulae	201	
Linear sequences	86, 203-206	
Non-linear sequences	370, 371	
Further expanding and factorising	441	
<b>3. Interpreting and representing data</b>		
Statistical diagrams 1	238, 240	
Time series	400	
Scatter graphs	244	
Line of best fit	244	
Averages and range	132-134, 207	
Statistical diagrams 2	235, 236, 65, 246, 316	
<b>4. Fractions, ratio and percentages</b>		
Fractions	29, 56, 101, 118, 165, 166	
Ratio and proportion	176, 177, 224, 225	
Percentages	130, 172, 215, 219, 220, 221, 223	
Fractions, decimals and percentages	172, 173	
<b>5. Angles and trigonometry</b>		
Angle properties of triangles and quadrilaterals	147, 149, 150, 151, 263	
Interior angles of a polygon	262	
Exterior angles of a polygon	262	
Pythagoras' theorem	289, 290	
Trigonometry	322, 323, 412	
<b>6. Graphs</b>		
Linear graphs	83, 273, 269, 271, 274, 275, 445	
Graphing rates of change	150	
Real-life graphs	178, 328	
Line segments	266	
Quadratic graphs	367, 419	
Cubic and reciprocal graphs	446	
Interpreting graphs	272, 273, 445	
<b>7. Area and volume</b>		
Perimeter and area	72, 79, 138-140, 182, 184	
Units of accuracy	107, 324, 311	
Prisms	145, 231, 232	
Circles	209-211, 319, 320	
Cylinders and spheres	233, 234, 406	
Pyramids and cones	405	
<b>8. Transformations and constructions</b>		
3D solids	228	
Reflections and rotations	153, 279-283	
Enlargement	295-298	
Translations	154, 375, 376	
Bearings and scale drawings	265, 284	
Constructions and loci	285, 286	
<b>9. Equations and inequalities</b>		
Solving quadratic equations	363, 368, 417	
Completing the square	415	
Simultaneous equations	276, 277, 420	
Linear inequalities	310, 340	

<b>10. Probability</b>		
Combined events	247	
Mutually exclusive events	249, 250	
Experimental probability	248, 251	
Independent events and tree diagrams	354	
Conditional probability	355	
Venn diagrams and set notation	356	
<b>11. Multiplicative reasoning</b>		
Growth and decay	176	
Compound measures	329, 326	
Ratio and proportion	224, 90	
<b>12. Similarity and congruence</b>		
Congruence	471	
Geometric proof		
Similarity in 2D and 3D shapes	293, 325	
<b>13. Further trigonometry</b>		
Accuracy	412	
Graphs of sine and cosine	431	
Tangent function	431	
Calculating areas and the sine rule	465, 466, 467	
Cosine rule and bearings	465, 466	
3D trigonometry and pythagoras	410, 411	
Transformations of trig graphs	448, 449	
<b>14. Further Statistics</b>		
Sampling	347	
Cumulative Frequency	398	
Box plots	399	
Drawing histograms	401	
Interpreting histograms	401	
Comparing and describing populations	347	
<b>15. Equations and graphs</b>		
Solving simultaneous equations graphically	276	
Representing inequalities graphically	458, 456, 458	
Graphs of quadratic functions	369, 416	
Solving quadratic equations graphically	419	
Iteration	441	
Graphs of cubic functions	426	
<b>16. Circle Theorems</b>		
Radii and chords	318	
Tangents	442	
Angles in circles	442	
Applying circle theorems	446, 447, 286	
<b>17. Further algebra</b>		
Rearranging formulae	261	
Simplifying algebraic fractions	388	
Algebraic fraction calculations	258, 389, 390, 392, 462	
Further surds	393	
Functions	133, 432, 435, 436	
Proof		
<b>18. Vectors and geometric proof</b>		
Vector notation	374, 472	
Vector arithmetic	374	
Parallel and colinear points	472	
Solving geometric problems	473	
<b>19. Proportion and graphs</b>		
Direct proportion	387	
Inverse proportion	387	
Exponential functions	426	
Non-linear graphs	252, 255, 367	
Translating graphs of functions	448	
Reflecting and stretching graphs of functions	449	

<b>Additional Resources</b>
<b>Maths Genie</b>
<b>Physicsandmathstutor.com</b>
<b>Corbett Maths</b>
Here you can find past papers, worksheets filtered by topic as well as written and video solutions

<b>Onmaths</b>
Here you can complete past paper questions online and receive instant feedback. You can see what grade you are working at as you work through the paper.

<b>Youtube - Corbett Maths</b>
Here you can find lots of videos on GCSE topics. Complete the questions as you watch the video.

<b>Dr Frost</b>
Use the Dr Frost numbers to the left to complete questions on these topics. You can also complete past paper questions on here too.
