

Higher Skills Set



Orchard Park
High School

Number

Topics	Clip Number	R	A	G
Calculating with roots and fractional indices	108, 109, 110			
Converting recurring decimals to fractions	53, 54			
Surds: Definition and estimating	111, 112			
Surds: Simplifying, multiplying and dividing	113, 114, 115			
Surds: Expanding brackets	116, 117			
Surds: Rationalising the denominator	118, 119			
Upper and lower bounds	137, 138, 139			
Error intervals	777			
Best buys	770			

Algebra

Topics	Clip Number	R	A	G
Substitution	784, 785, 786, 787			
Substitution: Equations of motion	788, 789			
Substitution: Important formulae	279			
Expanding triple brackets	166			
Expressions with algebraic fractions	172			
Linear equations with algebraic fractions	187			
Factorising quadratic expressions: ax^2+bx+c	225, 226, 227, 228			
Quadratic expressions: Algebraic fractions	229			
Quadratic expressions: Completing the square	235, 236, 237			
Quadratic equations: Factorising	231, 232, 233			
Quadratic equations: Quadratic formula	241, 242			
Quadratic equations: Completing the square	238, 239			
Quadratic equations: Algebraic fractions	244			
Quadratic equations in context	245			
Simultaneous equations: Quadratic/linear	246			
Manipulating powers	790, 791, 792, 793, 794, 795			
Exponential equations	796, 797, 798, 799			
Equation of a straight line: Perpendicular lines	215, 216			
Quadratic graphs: Turning points and discriminant	256, 243, 258			
Simultaneous equations on graphs: Quadratic/ linear	259, 260			
Exponential graphs	302, 800, 801, 802, 803			
Exponential growth problems	804, 805, 806, 807			
Exponential decay problems	808, 809, 810, 811			
Trigonometric graphs	303, 304, 305, 306			
Graph transformations	307, 308, 309, 310, 311, 312, 313			

Algebra (continued)

Topics	Clip Number	R	A	G
Speed-time graphs	881, 882, 883, 884, 885, 886			
Rate of change graphs	894, 895, 896			
Estimating gradient from a curve	887, 888, 889, 890			
Estimating area under a curve	891, 892, 893			
Equation of a circle	778, 779, 314, 315, 316, 317			
Circles and straight lines	318, 319, 320			
Linear inequalities as graph regions	273, 274, 275, 276			
Quadratic inequalities	277			
Function notation	288, 289			
Domain and range of functions	290, 291, 292			
Composite functions	293, 294			
Inverse functions	295, 296			
Functions: Problem solving	297			
Other sequences: Recurrence relations	262			
Quadratic sequences	247, 248, 249, 250			
Trial and improvement	321			
Iteration and numerical methods	322, 323			
Proof and counter-examples	324			
Direct algebraic proof	325, 326, 327			

Ratio, proportion and rates of change

Topics	Clip Number	R	A	G
Algebraic direct proportion	344, 345			
Algebraic inverse proportion	347			



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Geometry and measures

Topics	Clip Number	R	A	G
Congruence proofs	684, 685, 686, 687, 688, 689, 690			
Enlargements	646, 647			
Invariance	655			
Describe combined transformations	656, 657			
Circle theorems: Angles inside a circle	593, 594, 595, 596, 597			
Circle theorems: Tangents and chords	598, 599, 600, 601			
Circle theorems multi-step	603, 604, 605, 606			
Prove circle theorems	816, 817, 818, 819, 820			
Compound units: Density problem solving	730, 732, 733			
Volume of frustrums	578			
Volume: Problem solving	583			
Similar Shapes: Area	615, 616, 617			
Similar Shapes: Volume	618, 619, 620, 621			
Pythagoras' Theorem: Problem solving	503, 504			
Right-angled trigonometry: Non-calculator	306, 845, 846, 847, 848, 849, 850, 851, 852, 853			
Right-angled trigonometry: Problem solving	513, 514			
3D Pythagoras	505, 506, 507			
3D trigonometry	854, 855, 856, 857, 858, 859, 860, 861, 862, 863			
Sine rule for area	517, 518, 519			
Sine rule	521, 522, 523, 524, 525			
Cosine rule	527, 528, 529, 530			
Non-right-angled trigonometry: Problem solving	532, 533			
Bearings: Sine and cosine rule	531			
Vectors: Magnitude	627			
Vectors: Geometry problems	628, 629, 630, 631, 632, 633, 634, 635, 636			

Probability

Topics	Clip Number	R	A	G
Product rule for counting	671, 672, 673			
Conditional probability	364, 365, 366, 367, 389, 390			
Probability from Venn diagrams	385, 386, 387, 388, 391			

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Statistics



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Topics	Clip Number	R	A	G
Quartiles and interquartile range	411, 412			
Mean from grouped frequency tables	418			
Averages problems	421			
Cumulative frequency diagrams	437, 438, 439			
Box plots	434, 435, 436, 440			
Frequency polygons	441			
Histograms	442, 443, 444, 445, 446, 447, 448, 449			
Capture-recapture	872, 873			