

Year 11 PPE
November 2024
Higher Paper 1 Revision list
Non-Calculator

| Topic | Sparx Number | R | A | G |
|--|--------------|---|---|---|
| BIDMAS involving powers and roots e.g. Work out $(12 + \sqrt{9}) \times 2^3$ | M521 | | | |
| Drawing perpendicular bisectors e.g. In context and from points | M239 | | | |
| Interpreting column vector notation e.g. How would $\begin{pmatrix} 6 \\ -2 \end{pmatrix}$ translate a shape? | M139 | | | |
| Knowing minimum and maximum values having rounded using error intervals | M730 U587 | | | |
| Venn Diagrams | M829 M419 | | | |
| Plotting co-ordinates | M618 | | | |
| Using the formula of the surface area of a cone <i>Curved SA</i> = πrl (where l is the slanted height) | U523 | | | |
| Solving equations with unknowns e.g. $4x - 8 = 56$ | M957 M509 | | | |
| Solving equations with unknowns on both sides e.g. $3x + 5 = 10 - 2x$ | M554 | | | |
| Problems involving improper (top heavy) fractions | Q621 D534 | | | |
| Representing inequalities on number lines e.g. Represent $-5 < x \leq 9$ on the number line | M384 | | | |
| Solving inequalities e.g. $4x - 8 > 56$ | M118 M732 | | | |
| Describing transformations e.g. Fully describe the single transformation which has mapped shape A onto B | M881 U766 | | | |
| Length of the arc Formula = $\frac{\theta}{360} \times \pi d$ or Formula = $\frac{\theta}{360} \times 2\pi r$ | M280 | | | |
| Properties of a pentagon A pentagon is a five-sided shape with internal angles that sum to 540° | M767 | | | |

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|---|--------------|---|---|---|
| Simultaneous equations (both numeric and worded questions) | D674 | | | |
| Knowing square numbers to 15 | U851 | | | |
| Making approximations and estimating solutions e.g. Approximate $6.7^3 \times \sqrt{401}$ | E911 | | | |
| Comparing and contrasting averages | M541 | | | |
| Rearranging formulae e.g make F the subject $C = \frac{F+d}{6}$ | M242 M983 | | | |
| Equation of a circle Formula $x^2 + y^2 = r^2$ with centre at (0,0) | U567 | | | |
| Worded questions requiring fraction/decimal/percentage equivalence | Q503 | | | |
| Division of fractions e.g keep, flip, change | M110 | | | |
| Identities e.g Work out the values of a and b for the identity given below $(x + a)^2 - 7 \equiv x^2 + 10x + b$ | U471 P484 | | | |
| Converting recurring decimals into fractions e.g Prove algebraically that $0.7\dot{3} = \frac{11}{15}$ | M922 | | | |
| Circle Theorems | U807 U808 | | | |
| Geometric progressions e.g find the next term in the sequence | U958 | | | |
| Using the nth term of a sequence (arithmetic and geometric) e.g Knowing the nth term is $5n-1$ show the 4 th term | M418 M166 | | | |
| Algebraic proof | X377 B619 | | | |
| Knowing exact trig values and performing operations e.g $4\tan 60 \times \sin 30$ | U627 U319 | | | |

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|--|--------------|---|---|---|
| Parts of circle | M595 U767 | | | |
| Reverse Percentages | M528 | | | |
| Converting values into and from standard form e.g $23,000,000 = 2.3 \times 10^7$ | M719 M678 | | | |
| Inverse proportion Formula $y = \frac{k}{x}$ | M665 | | | |
| Probability sum to one | M655 | | | |
| Interpreting linear and quadratic graphs e.g What is the co-ordinate of the y intercept | M544 U228 | | | |
| Interpreting relative probabilities | M332 | | | |
| Calculating speed from distance time graphs | M551 | | | |
| Shading Venn Diagrams, using set notation e.g $A \cup B$ | M834 | | | |
| Repeated percentage increase | U671 D520 | | | |
| Converting between scale diagrams and real distances | M112 | | | |
| Congruent Triangles e.g ASA, RHS, SAS, SSS, AAS | U866 E322 | | | |
| Calculating averages from tables | M127 M287 | | | |
| Finding the equation of a line from a pair of co-ordinates | M205 | | | |
| Problems involving converting between minutes and seconds, and tonnes and kg | M515 M761 | | | |
| Plotting a box plot e.g Quartiles, Upper and Lower values | U879 U837 | | | |
| Finding angles by solving algebraic equations | M818 | | | |
| Trigonometry (SOH CAH TOA) question in context | U170 D173 | | | |
| Simplifying algebraic fractions | M754 M336 | | | |
| Factorising quadratics where the coefficient of x^2 is greater than 1 | U960 | | | |

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|---|----------------------|----------|----------|----------|
| Problem solving with algebraic fractions and substitution | E539 D700 E306 | | | |
| Problem solving involving fractions and ratio | M267 | | | |
| Finding approximate solutions using iteration | U168 | | | |
| Proving conjectures using vectors | E823 U781 | | | |
| Using a graph of inverse proportion | M448 | | | |
| Problem solving involving ratio and 3D Pythagoras theorem | M147 U541 | | | |

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Higher Paper 3 Revision list
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| Completing the next pattern in a sequence | M241 | | | |
| Pythagoras' theorem to find a long side | M677 | | | |
| Sampling and bias | U162 | | | |
| Plans and elevations of shapes | M229 | | | |
| Calculations with speed, distance and time | M247 | | | |
| Drawing reciprocal graphs e.g. draw the graph of $y = \frac{-1}{x}$ by completing a table of values | U593 E889 | | | |
| Interpreting pie charts | M165 U172 | | | |
| Calculating population density | U910 | | | |
| Calculating probability from an experiment | E127 | | | |
| Order of operations (BiDMAS) | D575 | | | |
| Probability trees | M206 | | | |
| Finding roots from a graph of a quadratic equation | D328 U665 | | | |
| Problem solving with angles in quadrilaterals and ratio | U595 U343 | | | |
| Finding the equation of a straight line from 2 sets of co-ordinates | P329 | | | |
| Finding the equation of a perpendicular line | D852 | | | |
| Calculating relative frequency | U580 | | | |
| Expressing a number as a product of prime factors | U739 | | | |
| Using the sine rule to find a missing angle in a non-right-angled triangle | U952 | | | |

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| Composite functions e.g. find $fg(x)$ | U647 U448 | | | |
| Writing an equation involving direct and inverse proportion | U407 U138 | | | |
| Using the formula for the volume of a sphere (the formula is given to you) | U617 | | | |
| Using the product rule for counting | U369 | | | |
| Invariant points | U799 | | | |
| Completing the square where the coefficient of x^2 is greater than 1 | U397 | | | |