

T1 calculator	T1 sine rule	T1 cosine rule
T1 radian	T1 laws of indices	T1 surd
T1 rationalise the denominator	T1 quadratic function	T1 discriminant

T1 The rule relating a triangle's sides and an angle: one side squared equals the sum of the other two sides squared minus twice their product times the cosine of the included angle.	T1 The rule that each side of a triangle divided by the sine of its opposite angle has the same value.	T1 A device for numerical calculation; the examination instructions determine permitted functions and required working.
T1 An expression involving a root that cannot be simplified to a rational number.	T1 Rules for combining powers, with domain conditions; for a positive base, multiplying adds exponents and raising a power multiplies them.	T1 The angle subtended at a circle's centre by an arc equal in length to its radius.
T1 The value $b^2 - 4ac$, which determines the nature of a quadratic equation's roots.	T1 A function $ax^2 + bx + c$ with $a \neq 0$, whose graph is a parabola.	T1 Rewrite a fraction so its denominator has no surd, by multiplying top and bottom by a suitable root or conjugate.

T1 completing the square	T1 simultaneous equations	T1 substitution
T1 inequality	T1 cubic	T1 reciprocal function
T1 asymptote	T1 transformation	T1 parallel

T1 Replacing a variable with a value or with another expression, including the u-substitution that reveals a quadratic form.	T1 Two or more equations whose unknowns must satisfy all the equations at the same time.	T1 Rewriting a quadratic expression as a squared linear expression plus or minus a constant.
T1 A function $y = a/x$ with a not zero and x not zero; its two branches approach the coordinate axes as asymptotes.	T1 A polynomial of degree three; its real graph can meet the x-axis at one, two or three distinct points, with a repeated root sometimes touching rather than crossing.	T1 A mathematical statement comparing expressions using relations such as less than or greater than.
T1 Sharing a direction: distinct coplanar lines do not meet, and nonzero parallel vectors are scalar multiples of one another.	T1 A rule or operation that maps an object, set of values or distribution to another form.	T1 A line that a curve approaches arbitrarily closely as its input or output tends to a particular limit.

T1 perpendicular	T1 ambiguous case	T1 arc length
T1 sector area	T1 derivative	T1 gradient of the tangent
T1 rate of change	T1 second derivative	T1 integration

T1 The distance along a curved part of a circle or another curve.	T1 The sine-rule situation where the same two sides and a non-included angle can produce two different triangles.	T1 Meeting at a right angle of 90 degrees.
T1 The slope of a tangent line to a curve at a point, equal to the derivative there when it exists.	T1 The instantaneous rate of change of a function with respect to its input.	T1 The area of a circle sector: $A = r^2\theta/2$ with θ in radians.
T1 Finding an integral, such as an antiderivative or the accumulated value over an interval.	T1 The derivative of a function's first derivative, describing how its gradient changes.	T1 The change in one quantity divided by the corresponding change in another.

T1 constant of integration	T2 laws of logarithms	T2 trigonometric identities
T2 definite integral	T2 proof	T2 proof by exhaustion
T2 disproof by counterexample	T2 factor theorem	T2 remainder theorem

T2 Equations true for every angle in their common domain, such as $\sin^2\theta + \cos^2\theta = 1$.	T2 Rules for logarithms with one common base $a > 0$, $a \neq 1$ and positive arguments: products become sums, quotients differences, and powers multipliers.	T1 An arbitrary constant included in an indefinite integral to represent the family of antiderivatives.
T2 Proving a claim by checking every case of a finite complete list.	T2 A logical argument establishing a result for every allowed case.	T2 The limit of sums of function values multiplied by interval widths, representing signed area under a curve over an interval.
T2 The remainder of $P(x)$ on division by $(x - a)$ equals $P(a)$.	T2 A polynomial has a factor $x - a$ if and only if its value at a is zero.	T2 Refuting a universal claim with one valid failing case.

T2 algebraic division	T2 quotient	T2 chord
T2 tangent	T2 sequence	T2 arithmetic sequences
T2 geometric sequences	T2 increasing	T2 decreasing

T2 A line segment joining two points on a circle.	T2 The result of dividing one quantity or expression by another.	T2 Dividing a polynomial by a nonzero polynomial divisor to write it as divisor $\times$ quotient + remainder; a nonzero remainder has lower degree than the divisor.
T2 Sequences with a constant difference between terms: $u_n = a + (n-1)d$.	T2 An ordered list of terms following a rule.	T2 A straight line that touches a curve at a point and has the same direction there.
T2 Describing a function or sequence whose values fall as its input or index increases over a specified range.	T2 Describing a function or sequence whose values rise as its input or index increases over a specified range.	T2 Sequences formed by multiplying each term by the same fixed factor.

T2 periodic	T2 binomial expansion	T2 logarithm
T2 domain	T2 trigonometric equations	T2 stationary points
T2 maximum	T2 minimum	T2 area under the curve

T2 The exponent to which a specified base must be raised to produce a given positive number.	T2 The expression obtained by expanding a power of a sum of two terms.	T2 Repeating after a fixed interval, as a periodic sequence or function.
T2 Points where the derivative is zero; a sign-change test can identify extrema, while a zero second derivative makes the second-derivative test inconclusive.	T2 Equations containing trig functions, solved over a stated interval with all solutions listed.	T2 The set of input values for which a function is defined.
T2 The geometric area between a curve and the x-axis over an interval; integrate the absolute value, splitting at zeros where needed.	T2 A value at least as small as all other values in the specified domain, or in a neighbourhood for a local minimum.	T2 A value at least as large as all other values in the specified domain, or in a neighbourhood for a local maximum.

T2 trapezium rule	T3 function	T3 rational expression
T3 domain	T3 range	T3 composition
T3 inverse function	T3 modulus	T3 combined transformations

T3 A quotient of polynomials, defined where its denominator is nonzero.	T3 A mapping that assigns exactly one output to each allowed input.	T2 A numerical method that approximates a definite integral by summing areas of trapezia beneath straight-line segments.
T3 Combining functions by applying one function to the output of another.	T3 The set of output values actually attained by a function on its stated domain.	T3 The set of input values for which a function is defined.
T3 Applying several graph transformations in order, reading the factored form $a \cdot f(b(x-h))+k$.	T3 The non-negative magnitude of a number; for a real number, its distance from zero.	T3 A function that reverses another function's mapping on a domain where that mapping is one-to-one.

T3 reciprocal functions	T3 harmonic form	T3 asymptote
T3 restricted domain	T3 compound angle	T3 double angle
T3 model	T3 log plot	T3 initial value

T3 A line that a curve approaches arbitrarily closely as its input or output tends to a particular limit.	T3 Writing $a \cos \theta + b \sin \theta$ as $R \cos(\theta - \alpha)$ with $R = \sqrt{a^2 + b^2}$, giving the amplitude and phase.	T3 The functions $\sec \theta = 1/\cos \theta$, $\operatorname{cosec} \theta = 1/\sin \theta$ and $\cot \theta = \cos \theta / \sin \theta$, each on its defined domain.
T3 An angle equal to twice a given angle, often used in trigonometric identities.	T3 An angle written as a sum or difference, used in the addition formulae.	T3 The limited input set that makes a function one-to-one so its inverse exists.
T3 The value of a variable or model at its starting input, often time zero.	T3 A graph of $\ln y$ against x (or $\ln x$), turning an exponential (or power) law into a straight line.	T3 A simplified representation of a system used to explain, analyse or predict its behaviour.

T3 long-run floor	T3 product rule	T3 quotient rule
T3 chain rule	T3 implicit differentiation	T3 recognition forms
T3 sign change	T3 iteration	T3 fixed point

T3 The differentiation rule for a ratio: the denominator times the numerator's derivative minus the numerator times the denominator's derivative, divided by the denominator squared.	T3 The differentiation rule for two multiplied functions: the first times the derivative of the second plus the second times the derivative of the first.	T3 The lower limiting value approached by the model under its stated conditions; in the cooling example, temperature approaches room temperature.
T3 Integrals done by spotting the reverse chain-rule pattern, such as $\int f'(x)/f(x) \, dx = \ln f(x) + C$.	T3 Differentiating an equation involving two variables while treating one variable as a function of the other.	T3 The rule for differentiating a composite function by multiplying the appropriate derivatives.
T3 A value left unchanged by an update rule: $x = g(x)$.	T3 Repeating a sequence of instructions or calculations.	T3 A change from a positive value to a negative value or from a negative value to a positive value.

T4 Proof by contradiction	T4 irrational	T4 Decompose
T4 partial fractions	T4 repeated factor	T4 Improper fractions
T4 Parametric equations	T4 Cartesian	T4 rational

T4 Write a rational expression as partial fractions with simpler denominators.	T4 Describing a real number that cannot be written as a ratio of integers.	T4 Assuming the negation and deriving an impossibility, as in proving $\sqrt{2}$ irrational.
T4 Rational expressions whose numerator degree is at least the denominator's, requiring division before decomposition.	T4 A denominator factor appearing more than once, needing a partial-fraction term for each power.	T4 Simpler rational expressions whose sum equals a given rational expression.
T4 Describing a real number m/n with integers m and n and a nonzero denominator n.	T4 Using x, y (and z) coordinates, as distinct from parametric or polar forms.	T4 Equations expressing coordinates or variables in terms of one or more common parameters.

T4 Implicit differentiation	T4 separable	T4 particular solution
T4 Connected rates of change	T4 Substitution	T4 Integration by parts
T4 volume of revolution	T4 vector	T4 magnitude

T4 A complete solution whose arbitrary constants have been fixed by conditions.	T4 Describes a differential equation whose variables can be gathered on opposite sides for integration.	T4 Differentiating an equation involving two variables while treating one variable as a function of the other.
T4 An integration method derived from the product rule, transferring differentiation from one factor to another.	T4 Rewriting an integral using a new variable and the chain rule, changing the differential and any limits consistently.	T4 Rates linked by a relation between changing quantities: $dy/dt = (dy/dx)(dx/dt)$.
T4 The non-negative length of a vector, calculated from its components.	T4 A quantity represented by both magnitude and direction, or by an ordered set of components.	T4 The volume of a solid formed by rotating a plane region around an axis.

T4 unit vector	T4 parallel	T4 scalar product
T4 position vector	T5 particle	T5 lamina
T5 rod	T5 rigid body	T5 inextensible string

T4 The scalar obtained by multiplying corresponding vector components and adding; for nonzero vectors it also determines their angle.	T4 Sharing a direction: distinct coplanar lines do not meet, and nonzero parallel vectors are scalar multiples of one another.	T4 A vector whose magnitude is one.
T5 A thin, flat sheet of material.	T5 An idealised object with mass whose size and shape are ignored in the motion model.	T4 The vector from the origin to a point, locating the point.
T5 An ideal string whose length does not change when it is pulled taut.	T5 An idealised object whose shape and distances between its particles do not change.	T5 A long, thin rigid body modelled with length but negligible thickness.

T5 smooth surface	T5 rough surface	T5 pulley
T5 bearing	T5 resultant	T5 impulse
T5 coefficient of friction	T5 normal reaction	T5 tension

T5 A wheel over which a rope or belt runs, used to change the direction of a force or transmit motion.	T5 A surface where friction may act along the contact.	T5 A surface modelled as providing no friction.
T5 The change in momentum, equal to force multiplied by its duration for a constant force.	T5 The single force with the same effect as all the forces acting together.	T5 A direction measured as an angle clockwise from north, usually written with three digits.
T5 A pulling force transmitted through a stretched string, cable or similar object.	T5 The contact-force component perpendicular to the supporting surface.	T5 The ratio of frictional force to normal contact force, at limiting friction for the static case.

T5 equilibrium	T5 moment of a force	T6 histogram
T6 stem and leaf	T6 box plot	T6 median
T6 interquartile range	T6 outlier	T6 conditional probability

T6 A graph of grouped numerical data using adjoining bars whose areas represent frequencies.	T5 The turning effect about a point, equal to the force times its perpendicular distance from that point.	T5 A state with no resultant force or resultant moment.
T6 For ordered data, the middle value or mean of the middle pair; for a continuous distribution, a value with half the probability on each side.	T6 A display of a distribution using its median and quartiles, with whiskers drawn according to a stated rule.	T6 A data display splitting each numerical value into a stem and a final digit while retaining the individual values.
T6 The probability of an event given that another event has occurred.	T6 An observation unusually far from the rest of the data or from the pattern expected under a model.	T6 The upper quartile minus the lower quartile, measuring the spread of the middle half of ordered data.

T6 independence	T6 regression line	T6 correlation coefficient
T6 discrete random variable	T6 probability function	T6 expectation
T6 variance	T6 Normal distribution	T6 standard deviation

T6 A number between -1 and 1 measuring the strength and direction of linear association.	T6 A fitted straight line used to predict one variable from the other in a stated direction.	T6 Events for which the joint probability equals the product of the individual probabilities.
T6 The probability-weighted average value of a random variable.	T6 For a discrete random variable, the function assigning $P(X=x)$ to each possible value x.	T6 A random numerical value with a finite or countably infinite set of possible outcomes.
T6 A measure of spread equal to the square root of the variance.	T6 A continuous symmetric bell-shaped probability model specified by its mean and standard deviation.	T6 A measure of spread based on the squared deviations of values from their mean.

T6 sample space	T6 positively skewed	T7 projectile
T7 trajectory	T7 centre of mass	T7 wire framework
T7 kinetic energy	T7 potential energy	T7 work done

T7 An object moving after being launched, typically modelled under gravity with air resistance neglected.	T6 Having a distribution with a longer tail towards larger values.	T6 The set of all possible outcomes of a random experiment.
T7 An assembly of thin wire segments whose masses and positions determine its centre of mass.	T7 The point representing an object's or system's mass-weighted average position.	T7 the curve the position vector traces through space
T7 Energy transferred when a force acts through a displacement, calculated using the component of force along that displacement.	T7 Energy stored because of position or configuration.	T7 The energy an object has because of its motion.

T7 power	T7 work-energy principle	T7 conservation of mechanical energy
T7 coefficient of restitution	T7 limiting equilibrium	T7 normal reaction
T7 friction	T7 integration	T7 rigid body

T7 Constancy of kinetic plus potential energy when no external driving or dissipative work changes that total.	T7 The net work done on a particle equals its change in kinetic energy.	T7 The rate of energy transfer or work done.
T7 The contact-force component perpendicular to the supporting surface.	T7 The boundary of equilibrium just before motion begins; for impending sliding, static friction reaches its limit.	T7 The ratio of relative speed of separation to relative speed of approach along the line of impact in a collision.
T7 An idealised object whose shape and distances between its particles do not change.	T7 Finding an integral, such as an antiderivative or the accumulated value over an interval.	T7 A contact force opposing relative sliding or its tendency between surfaces.

T7 moment	T8 probability density function	T8 cumulative distribution function
T8 mode	T8 median	T8 binomial distribution
T8 Poisson distribution	T8 continuous uniform distribution	T8 census

T8 A function $F(x)$ giving the probability that the random variable is less than or equal to x.	T8 A function whose area over an interval gives the probability that a continuous random variable falls within that interval.	T7 The turning effect of a force about a pivot.
T8 A probability model for the number of successes in a fixed number of independent trials with the same success probability.	T8 For ordered data, the middle value or mean of the middle pair; for a continuous distribution, a value with half the probability on each side.	T8 A most frequent data value, or a value where a continuous density attains its maximum.
T8 Collecting data from every member of a population, not just a sample.	T8 A continuous distribution with constant density over a finite interval; equal-length subintervals have equal probabilities.	T8 A probability model for event counts in a fixed interval when events occur independently at a constant average rate.

T8 sample	T8 sampling frame	T8 statistic
T8 sampling distribution	T8 hypothesis test	T8 null hypothesis
T8 critical region	T8 significance level	T8 continuity correction

T8 A value calculated from sample data only, such as the sample mean, with no unknown parameters.	T8 The list or set of accessible units from which a sample is selected.	T8 To select part of a population for observation; the selected subset is also called a sample.
T8 The default claim about a population parameter that a statistical test assesses against an alternative.	T8 A statistical procedure using sample evidence to assess a specified claim about a population or model.	T8 The distribution of a statistic over all possible samples of the same size.
T8 Adding or subtracting 0.5 when a continuous distribution approximates a discrete one.	T8 The chosen maximum probability of rejecting a true null hypothesis; a discrete test may have a smaller actual level.	T8 The set of test-statistic values that would make you reject the null hypothesis.

T9	T9	T9
Dijkstra's algorithm	Gantt chart	Kruskal's algorithm
T9	T9	T9
Prim's algorithm	activity-on-arc network	bin packing
T9	T9	T9
bubble sort	classical travelling salesman problem	critical path

T9 Building a minimum spanning tree by taking edges in increasing weight order while rejecting every edge that would create a cycle.	T9 A bar chart showing scheduled activities and their timing along a time axis.	T9 A shortest-path algorithm that makes the smallest temporary distance permanent, then updates neighbours; edge weights must be non-negative.
T9 Assigning items to capacity-limited bins while trying to use as few bins as possible.	T9 A directed project network whose arcs represent activities and whose event vertices encode their dependencies.	T9 Building a minimum spanning tree by repeatedly adding the cheapest edge from the current tree to a new vertex.
T9 A longest-duration path through a project network, determining the earliest possible completion time.	T9 Finding a shortest closed tour visiting each vertex exactly once before returning to the start.	T9 A sorting algorithm that repeatedly compares adjacent items and swaps those in the wrong order until the sequence is ordered.

T9 dummy	T9 earliest event times	T9 latest event times
T9 minimum spanning tree	T9 nearest neighbour algorithm	T9 quick sort
T9 ruler method	T9 total float	T9 vertex method

T9 The latest event times consistent with completing the project on time, found by a backward pass.	T9 The earliest times events can occur after all predecessor activities finish, found by a forward pass.	T9 A zero-duration activity arc used to represent a dependency in an activity-on-arc network.
T9 Sorting by partitioning around a pivot, keeping equal items, then recursively sorting the smaller and larger groups.	T9 A tour heuristic that repeatedly visits a nearest unvisited vertex, then returns to its start; it need not find the shortest tour.	T9 A connected cycle-free network joining every vertex with the smallest possible total edge weight.
T9 Comparing a linear objective at feasible corner points to find an existing bounded optimum.	T9 The delay available to an activity without delaying project completion: latest finish minus earliest start minus duration.	T9 Moving a line of constant linear-objective value to find its best contact with the feasible region.

T9 route inspection (Chinese postman) problem		

		T9 Finding a shortest closed route traversing every edge of a connected network at least once.