

Algebra

Binomial expansion (*see also* **Combinatorics**): A80T4, A81T1, A82T8, N83T7, A84R1-5, N86I7

Complex numbers: A81I4, N82T4, A82I8, N83I2, A83T5, A84I3, N85T2, A87I6

Equations, solving (*see also* Theory of Equations):

absolute value: A78T6, N81T3, N86R2-2, A88R2-3

cubic: N81T3, N81T6, A81T5, A81I5, A82T7

integer (*see also* **Number Theory**: Diophantine equations): N74I6, A77I4, A78I8, A80T1, N82T3, N84T1, N87I2

exponential and logarithmic: N75I4, N76I5, A76I6, N77T4, A77T4, A77T9, N78T2, A78T3, N79T2, N79I1, A79T6, N80I4, A80T6, A80I2, N81T9, N85T5, N86I5, A87T1, N88R1-2

polynomial of degree four or more: A78T8, A79T5, N82T8, N83T8, A84T10, A85I8

quadratic: A76T3, N77T2, N77I6, A78I5, N79I4, A81T4, N83T2, A85T1, N88I2, N88R1-5, A88T5

radical: N76T3, A78T4, N79T6, A80T9
systems (of): N73I3, N76T1, N76I5, A76I6, N77T6, N78T7, N79I1, A80T6, A80I2, N84T5, A88R2-3

miscellaneous: N75I2, A79I3, N80T5, A88T5

Exponents: N82I2, A83I5, A88I7

Extreme values (maximum-minimum problems): N81T8, A81T3, A82I1, N83T6, N85I2, A85T1, A86I7, N87I3, A88T10, A88I3, A88I7

Factorization of polynomials: N80I3, A80T5

Functions and functional relations: N74I2, A78I2, A83T5, N84T4, N86T9, A86I1

Greatest integer function: N82T6, N87R2-4, A87I3, A87R2-3, A88T5

Inequalities: N77I1, A77T6, A78T6, N83T2

Limits: A76T4, A79T9, A82T5, A82I3, A87I2, N88I6

Logarithms: A77I8, N81T9, A83I5, N86I5, N87R2-1

Means: N84T3, A88I3

Radicals: A77I7, A79I6, N80T3

Ratio and proportion: N73I6, N83I3, A84I2, N88R2-4

Recursion and iteration: A81I7, N85I7, A85I7, A86I1, A87T7, A87I2, N88T6

Sequences and series:

arithmetic: N78I1, A78T1, N79T3, A83T6, N84I3, N87I1

geometric: N73I5, A81I4, N83T9, N84T6, A84I3, N85T2, A88T3

miscellaneous: N75I6, A76T5, A76I2, A78I6, A79I1, N80T1, A84T1, N85I5, A85T9, N87I6, A87I2, A87I7, N88T6, N88I6

Theory of equations (*see also* Equations):

factor and remainder theorems: A76T8, A77T2, A85I8, N88I8

(solving) polynomial equations of degree greater than three (*see also* Equations: polynomial): A78T8, A79T5, N82T8, N83T8, A84T10

relations between roots and coefficients: A76T3, N81T6, A81I1, A82T7, N83T9, A83I4, A83I6, N85I4, A85I6, A86I8, N88T5, A88T10

miscellaneous: N78T5, N78I6, N79I6, A81T5, N82T10, N82I6, A83T3, N87T9, A87I4, A87I6

Miscellaneous topics:

arithmetical or computational: N77I5, A77T8, N79T1, N79T5, A81T3, A81T8, N83T1, N83T7, A83I5, N84I1, N85T9, N85I1, A85T10, N86I1, A86I3, N87T2, N87I1, A87I1, N88I1, N88R2-3, A88T2, A88T4, A88I1, A88I6

assorted algebraic techniques: N75I6, N76I2, N77T8, N79I6, N80T3, N80T6, N80T7, A83T5, A83I7, A83I8, A86I7, A86I8, N87I2, A87T9

various word problems: N73I1, N73I6, N74I4, N76T2, N76T6, N76I4, N77T1, N77I2, A77T1, A77I2, N78I2, N78I4, A78I1, A78I7, A79I4, N81T7, A81I2, N83I3, A83T3, N88I7

Analytic Geometry

Lattice points: A80I3, A81I7, A84R1-3, N87T3

Problems involving conics: N83I5, N85T6, N87T10, A88T9

Problems involving triangles in the coordinate plane: A76I5, N78T6, A78T9, N88T1, N88R2-5

Properties of graphs: A78I2, N86R2-3, A87T8

Solid coordinate geometry: A77T10, N79I5, N80T4, A80T10, A82T1, A86I2, A87T4

Miscellaneous: A76T9, N77I3, A77T10, A77I1, A77I3, A78T2, N80I1, N82I4, A82I2, N83T6, N83T10, A83T1, A84R2-5, N85T1, A85I6, A85R1-5, A86I6

Combinatorics and Probability

Binomial coefficients: A79T3, A80T4, A80I4, A82T8

Permutations and combinations: A76T10, N81T1, N82T9, A82T10, A83T4

Probability: A76T7, A76I4, N77T7, A77T5, A79I5, N81T5, N82I1, A82T9, A82I7, N83T3, A83T8, N85T8, A86T6, N87T4, A87T3, N88T4, N88T9, A88T1

Miscellaneous: A80T10, N83T7, N87T3, N88I7

Geometry

Angle measurement: N81I1, N82T2, N82I3, N86T2, A88I4

Area relationships: N73I7, N75I1, N76T8, N76I3, N76I6, A76I3, N77T5, A77I5, N80T8, N80I5, A80I7, A81T6, A81T9, A81I8, A82T2, N83T5, N84T2, N84I6, N85R2-3, A85R2-1, N86T4, N86I2, N86I3, A87T6, N88R1-4, A88R2-2

Circles:

tangents: N75I5, A80T8, A82T4, A83I3, A85T6, A85R2-1, A86T1, A87T10

miscellaneous: N73I4, N74I5, A76I7, N79T7, N79T8, A79I2, N81I4, N81I6, A83T7, A85I1, N86T8, N87T7, N87I5, N88R2-1, A88R1-3

Conics: A79T7, A84T5, A85T7, A86T5

Extreme values (geometric maximum-minimum problems): N76T4, A76I7, N78T6, N80T8, A80T3, N81T2, N81T4, N86T8, N86I8

Polygons other than triangles or quadrilaterals: A77I5, N83I3, N83I4, A84I4, N88T3

Pythagorean theorem and right triangle relationships: N77T3, A82I6, A83I2, A84I1, N85T10

Quadrilaterals (special and otherwise): A76I3, N77I3, A77T7, A79T4, A80I7, N81T4, A81T2, A81I8, A83T2, A83T9, N84T9, N85I8, A85I5, N86I2, A86T3, A88I2

Solid geometry: N75I3, N76I1, A80T10, N83T4, A84I5, N85I3, A85T3, A85I3, N86T1, A86T10, N88T7, A88T8

Triangles:

(problems involving) altitudes, angle bisectors, medians, or perpendicular bisectors: N73I7, N74I3, N75I1, N76T7, N76I6, A76T6, A77T3, N78I5, N80T8, A80I1, N82T7, N83T5, A83T10, N84I4, N85I6, A87T2, A87T4, N88T6, N88I4, A88I4

angle measurement: N86T2, A88I4

associated circles: N78T3, A78T10, A78I4, N79I2, A81I3, N82I5, N84T7, A84T8

miscellaneous: N75I5, N77T8, A79T10, A79I7, N80I5, A80I5, A81I6, A83T2, A83I8, N84I6, N85R2-3, A85T4, A85I5, N86I3, N87I4, A87I4, A88T2, A88T6

Transformations: N87T8, A87T7, A87I8, N88R2-5

Miscellaneous: N73I2, N74I4, N76T8, A76T1, A76T9, N77T8, A80T3, N87T6, A88T3

Number Theory

Bases: N74I1, N76I4, A76T2, N78T1, N80T2, A80T7, A80I8, N81I5, A83R1-1, N86T7, N86I6, N88T2

Diophantine equations (*see also Algebra: Equations*): N74I6, A76I8, A77I4, A78I8, A80T1, A80T7, N82T3, A83I7, N84T1, N84I3, A84T2, A84I7, A84R2-1, A88T4, A88I6

Divisibility, factorization, and primes: N78T4, A78T1, A79T1, A79T8, N80I2, N81T8, N81I2, N82T1, N82T5, A82I4, A82I5, N83I1, N84T8, N84I5, A84T4, A84I6, N85T3, N85T8, A85T5, A85I4, N86T6, N86T10, N86I6, A86T9, A86I5, A86I7, N87T5, N87I7, A87I1, A88I8, A88R2-1

Fibonacci numbers: A83T9, N88R2-2

Pythagorean triples: N77T3, A83I2, A84T6, N87T6, N88I6

Miscellaneous: A78T7, A79T3, A86I4, A88R1-1

Trigonometry

Evaluating or simplifying: A76I1, A77I6, A78I3, A81T7, N83R1-1, N83R2-3, A83I1, N84I2

Graphs: A87I5, N88I3

(Functions involving) sums, differences, multiples, or submultiples of angles: N76T5, N77I4, A77I6, A78I3, A79T2, N80I6,

A83I1, A85I2, N86I4, N88T10, A88T7,
A88T9

Problems having an algebraic setting: N78T8,
A83I8, A85T2

Problems having a geometric setting: A78T5,
N83I6, N84T9, N85T4, N85I8, N86T5,
A86T1, A86T9, A86I6, N87I8

Trigonometric equations: N76T5, N77T4,
N77I4, N78I3, N79I3, A79T2, A79I8,
A80T2, A80I6, A81T10, A82T6,
N85T5, N86I4, A87R2-5, N88T10,
N88I5, A88T7, A88I5

Miscellaneous: A82T4, N83T10, A83I6,
A84I8

Miscellaneous

Cross-number puzzles: A84T3, A85T8,
N86T3, A86T4, A87T5

Set theory: N84T10, A84T7, A85R2-5,
N87T1

Miscellaneous: N81I3, A84T9, N85T7,
N88T4