Algebra
→ algebraic (*adj.*)

Algebraic expression
Algebraic structure
- set + operation(s) => set operations
  - addition → additive (*adj.*), e.g. additive commutativity
  - multiplication → multiplicative (*adj.*), e.g. multiplicative associativity
  - binary operation
- with one operation
  - group
    - Abelian
- with two operations
  - ring
    - integral domain
  - field
    - skew f. = division algebra
- properties (conditions)
  - closure → closed under addition/multiplication/…
  - commutativity → commutative (*adj.*) × noncommutative (*adj.*)
  - associativity → associative (*adj.*)
  - distributivity → distributive (*adj.*)
    - left
    - right
  - identity property → identity element
    - = neutral element = additive identity = zero
    - = unit element = multiplicative identity = unity/one
  - inverse property → inverse (*n.*) = reciprocal element

Basis – *plural*: bases /ˈbeɪsiːz/ = "beisíz"
Cramer's rule
Determinant
Dimension → dimensional (*adj.*)
- finite dimensional × infinite dimensional
- *n*-dimensional

Elementary row/column operations
Eigenvalue = characteristic value
Equation
- linear / quadratic / cubic / quartic / quintic / of degree *n*
- binomial
- system of equations

Gaussian elimination algorithm
Kernel = null space
Linear dependence → linearly dependent (*adj.*)
× linear independence → linearly independent (*adj.*)
Linear combination
Mapping
- bijective (*adj.*) m. → bijection (*n.*)
  - surjective m. (*adj.*) → surjection (*n.*) = onto mapping – "maps set A onto set B"
  - injective m. (*adj.*) = injection (*n.*) – "maps set A into set B"
- linear m.

- image of (an element) under a mapping

Matrix, *plural*: matrices
- *m* by *n* m.
  - square
  - rectangular
- has
  - *m* rows and *n* columns
  - (main) diagonal
  - (*i*,*j*) entry / element
- transposed → transpose (*v.*, *n.*) – “A transpose” or “the transpose of A”
  - conjugate transpose = adjoint m.
- inverse → invertible m. – “A inverse” or “the inverse of A”
  - invertible = non-singular × singular
- in a echelon form – row-echelon form / column-echelon form
- upper-/lower- triangular
- identity m.

Pivot

Polynomial
- in x (= the variable is x)
- with coefficients
- Monomial / Binomial / Trinomial
- of degree *n*
- term of a p.
  - linear term = constant term
- reducible × irreducible p.
- root of a polynomial
- solvable by radicals

Product
- dot p. = scalar p. = inner p.
- cross p. = vector p.

Rank

Scalar

Span = hull

Term
- absolute = constant

Variable /ˈveəriəbl/

Vector

Vector space
- vector subspace