Number Theory, Arithmetic

absolute value
arithmetic
arithmetic mean = arithmetic average
axis – axial (*adj.*)
- real
- imaginary

commensurable
→ commensurability (*n.*)
complex conjugate
decimal
- repeating d. = recurring d.
- × non-repeating
- terminating × non-terminating

decimal expansion
decimal number
decimal place
decimal point
digit = cipher
equality
×inequality
- strict i.
- less than (or equal to)
- greater than (or equal to)

equivalence
- properties
    - reflexive
    - symmetric
    - transitive

factorization (*n.*) – factorize (*v.*) – factor (*v.*)
- prime factorization – to factor a number into primes
- unique factorization theorem

fraction
- consists of
    - Numerator
    - Denominator
- "a over b"
- in its lowest terms
- compound f.
- continued f.
- proper × improper
- → fractional (adj.)
    - fractional bar
- simplify a f. = cancel a f. (into its lowest terms)

geometric mean = geometric average
harmonic mean = harmonic value
imaginary unit
integer part
interval
- open
- closed
- half-open
    - closed from the left
    - closed from the right

number
- natural
- integral → integer (*n.*, also used as an *adj.*)
- rational
- irrational
- real
- complex
    - in algebraic form
    - in trigonometric form
    - in exponential form
- (purely) imaginary
- positive × negative
- → non-negative, non-zero
- odd × even
- prime (also *n.*)×composite
- algebraic × transcendental
- cardinal
- ordinal

number line
number set
number system
- representation in a n.s.
- binary
- decimal = base 10
- hexadecimal

operation
- arithmetic
- common arithmetic operations = fundamental operations of arithmetic
    - addition – add (*v.*) – additive (*adj.*)
        - Summand + summand = sum
    - subtraction – subtract (*v.*)
        - minuend – subtrahend = difference
    - multiplication – multiply (*v.*) – multiplicative (*adj.*)
        - Factor * factor = product
        - (least) common multiple
    - Division – divide (*v.*)
        - Dividend ÷ divisor = quotient
        - with remainder
        - → divisibility – divisible (*adj.*) × indivisible (*adj.*)
        - (greatest) common divisor = (greatest/highest) common factor
- equivalent × non-equivalent
- properties of o.
    - associativity – associative (*adj.*)
    - commutativity – commutative (*adj.*) – commute (*v.*) × noncommutative
    - distributivity – distributive (*adj.*)
    - identity element
    - inverse element

place value system - positional notation
power → raise to a power
prime = prime number
- → primality (*n.*)

ratio
reciprocal value
root → extract/take a root
sieve