Set theory and Logic

Axiom → axiomatic (*adj*.)
Cartesian product
Cardinal numbers
- → cardinality of a set

Completeness
Consistency
Condition
- necessary c. – P ⇒ S "S is a necessary condition for P"
- sufficient c. – P ⇒ S "P is a sufficient condition for S"

Counterexample
DeMorgan's laws
Difference
Element
- $a \in S$: "*a* is an element of *S*", "*a* belongs to *S*", "*a* lies in *S*"

Intersection
- "the intersection of *A* and *B*", "*A* intersect *B*"

Union
- "the union of *A* and *B*", "*A* union *B*"

Complementation
- → complement (of *S* with respect to (/in) *U*)

Ordinal numbers
Quantifier
- existential
  - ∃! "there exists/is one and only one" "there exists/is exactly one"
- universal

Proof
- formal p.
- direct p.
- indirect p. = by contradiction
- by cases
- by induction **on** *n* (*in Czech* 'indukce **podle** *n*')

Proposition
Tautology
Theorem
Truth functional connective
- Boolean connective
  - conjunction – "and"
  - disjunction – "or"
  - negation – "not"
- (material) conditional = *if* ... *then* ... statement = implication
- biconditional = *if and only if* statement = equivalence

Truth table
Truth value
Set
- null = empty
- universal = universe of discourse = domain of discourse
- finite /faɪnaɪt/ × infinite /ɪnfɪnət/

Subset
- proper
- improper