

Reference Sheet 3.7. Rules of Traditional Logic

S, P, M are variables that represent both affirmative terms and negative terms.

Elementary Equivalences For Traditional Logic

Predicate Double Negation (Pred-DN)

... .. are **P** = are non-non-**P**

Here the dotted notation represents any quantifier and any subject term, both of which must be kept constant in the inference.

The Quantifier-Negation laws (QN)

not (all **S** are **P**) = some **S** are non-**P**

not (some **S** are **P**) = all **S** are non-**P**

no **S** are **P** = all **S** are non-**P**

no **S** are **P** = not (some **S** are **P**)

Conversion (Conv)

some **S** are **P** = some **P** are **S**

no **S** are **P** = no **P** are **S**

Contraposition (Contrap)

all **S** are **P** = all **opposite[P]** are **opposite[S]**

Elementary Argument Forms For Traditional Logic

Univ Syll

all **S** are **M**
all **M** are **P**

∴ all **S** are **P**

Part Syll

some **S** are **M**
all **M** are **P**

∴ some **S** are **P**

One may also **supersize** these rules by adding the appropriate **continuation** premisses.

Additional rules for Traditional Logic

Sing Univ Syll

all **S** are **P**
n is **S**

∴ **n** is **P**

Sing Part Syll

n is **S**
n is **P**

∴ some **S** are **P**

Name-Negation Law

~(**n** is **P**) = **n** is non-**P**