1. *Modus ponens* (MP)

$p \supset q$	If Su Lin is a panda, then Su Lin is cute.
p	Su Lin is a panda.
q	Su Lin is cute.

2. *Modus tollens* (MT)

$p \supset q$	If Koko is a koala, then Koko is cuddly.
$\sim q$	Koko is not cuddly.
$\sim p$	Koko is not a koala.

3. Pure hypothetical syllogism (HS)

$p \supset q$	If Leo is a lion, then Leo roars.
$q \supset r$	If Leo roars, then Leo is fierce.
$p \supset r$	If Leo is a lion, then Leo is fierce.

4. Disjunctive syllogism (DS)

$p \vee q$	Scooter is either a mouse or a rat.
$\sim p$	Scooter is not a mouse.
q	Scooter is a rat.

Constructive dilemma (CD)

$(p \supset q) \cdot (r \supset s)$	If Oscar is a dog, then you'll have fleas, and if Oscar is a cat, then you'll have fur balls.
$p \vee r$	Oscar is either a dog or a cat.
$q \vee s$	You'll have either fleas or fur balls.

Simplification (Simp)

$p \cdot q$	Eliza has long legs and runs fast.
p	Eliza has long legs.

Conjunction (Conj)

p	Roxy has big eyes.
q	Roxy has a tail.
$p \cdot q$	Roxy has big eyes and a tail.

Addition (Add)

p	Theo has spots.
$p \vee q$	Theo has either spots or stripes.

9. De Morgan's rule (DM):
   $\sim(p \cdot q) :: (\sim p \vee \sim q)$
   $\sim(p \vee q) :: (\sim p \cdot \sim q)$
10. Commutativity (Com):
    $(p \vee q) :: (q \vee p)$
    $(p \cdot q) :: (q \cdot p)$
11. Associativity (Assoc):
    $[p \vee (q \vee r)] :: [(p \vee q) \vee r]$
    $[p \cdot (q \cdot r)] :: [(p \cdot q) \cdot r]$
12. Distribution (Dist):
    $[p \cdot (q \vee r)] :: [(p \cdot q) \vee (p \cdot r)]$
    $[p \vee (q \cdot r)] :: [(p \vee q) \cdot (p \vee r)]$
13. Double negation (DN):
    $p :: \sim\sim p$
14. Transposition (Trans):
    $(p \supset q) :: (\sim q \supset \sim p)$
15. Material implication (Impl):
    $(p \supset q) :: (\sim p \vee q)$
16. Material equivalence (Equiv):
    $(p \equiv q) :: [(p \supset q) \cdot (q \supset p)]$
    $(p \equiv q) :: [(p \cdot q) \vee (\sim p \cdot \sim q)]$
17. Exportation (Exp):
    $[(p \cdot q) \supset r] :: [p \supset (q \supset r)]$
18. Tautology (Taut):
    $p :: (p \vee p)$
    $p :: (p \cdot p)$