

## Famous Forms

### Modus Ponens

If A, then B

A

So, B

### Modus Tollens

If A, then B

Not B

So, Not A

### Hypothetical Syllogism

If A, then B

If B, then C

So, If A, then C

### Disjunctive Syllogism

A or B    -or-    A or B

Not A                      Not B

So, B                      So, A

### Constructive Dilemma

A or B            -or-            A or B

If A, then C            If A, then C

If B, then C            If B, then D

So, C                      So, C or D

### Contraposition

If A, then B is equivalent to If Not B, then Not A

### DeMorgan's Laws

Not: A or B is equivalent to Not A and Not B

Not: A and B is equivalent to Not A or Not B

**Conditional Proof**

**Assume A... B follows.**

**So, If A, then B**

**Reductio ad Absurdum**

**Assume A... B and Not B follows.**

**So, Not A**

*-or-*

**Assume Not A... B and Not B follows.**

**So, A**

In the last two cases, “**Assume A**” basically means “I’m assuming **A** but ONLY FOR THE SAKE OF ARGUMENT...it's not something I necessarily believe...” What comes after the ellipsis indicates what deductively follows ONLY WHILE assuming **A** for argument’s sake. But on the next line, the conclusion is supposed to follow INDEPENDENTLY of whether **A** is true.

Thus, in *reductio ad absurdum*, you suppose *just for argument's sake* that your opponent's view is correct. Under that assumption, you then argue to a contradiction. The ultimate conclusion drawn is that the opponent's view must be false. After all, you've basically shown that when you assume the opponent is right, an absurdity results. That's grounds for concluding unconditionally that your opponent is wrong.