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|---|--|---|---|--|--|---------------------------------|---------------------------------|
| <p style="text-align: center;"><u>Modus Ponens</u></p> $\frac{p \rightarrow q}{p} \therefore q$ | <p style="text-align: center;"><u>Modus Tollens</u></p> $\frac{p \rightarrow q}{\sim q} \therefore \sim p$ | <p style="text-align: center;"><u>Conjunction</u></p> $\frac{p}{q} \therefore p \wedge q$ | <p style="text-align: center;"><u>Transitivity</u></p> $\frac{p \rightarrow q}{q \rightarrow r} \therefore p \rightarrow r$ | | | | |
| <p style="text-align: center;"><u>Elimination</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 50%; padding: 5px;"> $\frac{p \vee q}{\sim q} \therefore p$ </td> <td style="width: 50%; padding: 5px;"> $\frac{p \vee q}{\sim p} \therefore q$ </td> </tr> </tbody> </table> | | $\frac{p \vee q}{\sim q} \therefore p$ | $\frac{p \vee q}{\sim p} \therefore q$ | <p style="text-align: center;"><u>Generalization</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 50%; padding: 5px;"> $\frac{p}{\therefore p \vee q}$ </td> <td style="width: 50%; padding: 5px;"> $\frac{q}{\therefore p \vee q}$ </td> </tr> </tbody> </table> | | $\frac{p}{\therefore p \vee q}$ | $\frac{q}{\therefore p \vee q}$ |
| $\frac{p \vee q}{\sim q} \therefore p$ | $\frac{p \vee q}{\sim p} \therefore q$ | | | | | | |
| $\frac{p}{\therefore p \vee q}$ | $\frac{q}{\therefore p \vee q}$ | | | | | | |
| <p style="text-align: center;"><u>Specialization</u></p> <table border="1" style="width: 100%; border-collapse: collapse;"> <tbody> <tr> <td style="width: 50%; padding: 5px;"> $\frac{p \wedge q}{\therefore p}$ </td> <td style="width: 50%; padding: 5px;"> $\frac{p \wedge q}{\therefore q}$ </td> </tr> </tbody> </table> | | $\frac{p \wedge q}{\therefore p}$ | $\frac{p \wedge q}{\therefore q}$ | <p style="text-align: center;"><u>Contradiction rule</u></p> $\frac{\sim p \rightarrow c}{\therefore p}$ | <p style="text-align: center;"><u>Proof by division into cases</u></p> $\frac{p \vee q}{p \rightarrow r} \frac{q \rightarrow r}{\therefore r}$ | | |
| $\frac{p \wedge q}{\therefore p}$ | $\frac{p \wedge q}{\therefore q}$ | | | | | | |