

Modus ponens is a fundamental inference rule in propositional logic.

If we know P is true and P implies Q, we can conclude Q is true.

$$\frac{\begin{array}{c} \mathbb{P} \\ \mathbb{P} \Rightarrow Q \end{array}}{Q} \text{ modus ponens}$$

The horizontal line (generated by —) separates premises from conclusion.

The label in brackets appears to the right of the conclusion.

Here's a more complex example with multiple premises:

$$\frac{\begin{array}{c} \mathbb{P} \Rightarrow Q \\ Q \Rightarrow R \\ \mathbb{P} \end{array}}{R} \text{ chain of implications}$$

We can also use INFRULE without labels:

$$\frac{A \wedge B}{A} \text{ conjunction elimination}$$