Laws for Truth Values

Assume we have a fixed truth value assignment for the propositional variables. For sentences A and B of the Propositional Calculus the following hold.

Computation Rules

$\neg A$ is T   iff A is F
$\neg A$ is F   iff A is T

$A \wedge B$ is T   iff A is T and B is T
$A \wedge B$ is F   iff A is F or B is F

$A \vee B$ is T   iff A is T or B is T
$A \vee B$ is F   iff A is F and B is F

$A \Rightarrow B$ is T   iff A is F or B is T
$A \Rightarrow B$ is F   iff A is T and B is F

$A \Leftrightarrow B$ is T   iff   either A is T and B is T or A is F and B is F
$A \Leftrightarrow B$ is F   iff   either A is T and B is F or A is F and B is T

Additional Facts

A is T   iff A is not F
A is F   iff A is not T

$A \Rightarrow B$ is T   iff   if A is T then B is T