Boolesche Algebra

Huntington'sche Axiome

Kommutativgesetze

(K1) $A \wedge B = B \wedge A$
(K2) $A \vee B = B \vee A$

Distributivgesetze

(D1) $A \wedge (B \vee C) = (A \wedge B) \vee (A \wedge C)$
(D2) $A \vee (B \wedge C) = (A \vee B) \wedge (A \vee C)$

Neutrale Elemente

(N1) $A \wedge 1 = A$
(N2) $A \vee 0 = A$

Inverse Elemente

(I1) $A \wedge \overline{A} = 0$
(I2) $A \vee \overline{A} = 1$

Abgeleitete Regeln

Assoziativgesetze

(A1) $(A \wedge B) \wedge C = A \wedge (B \wedge C)$
(A2) $(A \vee B) \vee C = A \vee (B \vee C)$

Regeln von De Morgan

(M1) $\overline{A \wedge B} = \overline{A} \vee \overline{B}$
(M2) $\overline{A \vee B} = \overline{A} \wedge \overline{B}$

Idempotenz

(ID1) $A \vee A = A$
(ID2) $A \wedge A = A$

Elimination

(E1) $A \vee 1 = 1$
(E2) $A \wedge 0 = 0$

Absorption

(AB1) $A \vee (A \wedge B) = A$
(AB2) $A \wedge (A \vee B) = A$

Doppelnegation

(DN) $\overline{\overline{A}} = A$