S 80 Nr 1 $\quad A(p,q,r) = \underbrace{(r \vee (p \to q))}_{\mathrm{I}} \wedge \underbrace{(\neg r \vee q)}_{\mathrm{II}}$

p	W	W	W	W	F	F	F	F
q	W	W	F	F	W	W	F	F
r	W	F	W	F	W	F	W	F
$p \to q$	W	W	F	F	W	W	W	W
$r \vee (p \to q)$	W	W	W	F	W	W	W	W
$\neg r$	F	W	F	W	F	W	F	W
$\neg r \vee q$	W	W	F	W	W	W	F	W
$\mathrm{I} \wedge \mathrm{II}$	W	W	F	F	W	W	F	W

$$E[A] = Bool^3 \setminus \{(W,F,W);\ (W,F,F);\ (F,F,W)\}$$

$\Rightarrow$ Kontingenz

2) $\overbrace{a \wedge b \to c}^{A_1} \Longleftrightarrow \overbrace{(a \to c) \vee (b \to c)}^{A_2}$

a	w	w	w	w	F	F	F	F
b	w	w	F	F	w	w	F	F
c	w	F	w	F	w	F	w	F
$a \wedge b$	w	w	F	F	F	F	F	F
$a \wedge b \to c$	w	F	w	w	w	w	w	w
$a \to c$	w	F	w	F	w	w	w	w
$b \to c$	w	F	w	w	w	F	w	w
$(\ ) \vee (\ )$	w	F	w	w	w	w	w	w
$A_1 \Leftrightarrow A_2$	w	w	w	w	w	w	w	w

$E[A] = Bool^3 \to$ Tautologie $\to$ Äquivalenz

$A_1 \Longleftrightarrow A_2$

$$T_1(a,b,c) = a \land b \to c$$

$$\neg(a \land b) \lor c \qquad \text{Äquivalenzformel}$$

$$\underline{\neg a \lor \neg b \lor c} \qquad \text{de Morgan}$$

$$T_2(a,b,c) = (a \to c) \lor (b \to c)$$

$$(\neg a \lor c) \lor (\neg b \lor c) \qquad \text{Ä-Formel}$$

$$\neg a \lor \neg b \lor (c \lor c) \qquad \text{asso. + kom.}$$

$$\underline{\neg a \lor \neg b \lor c} \qquad \text{idempotent}$$

$$7)\; -4a + 2\cdot(a - (3 + s - 2\cdot(a - 4s + 2) - 3\cdot(a - s)) + 12s)$$

$$-4a + 2\cdot(a - [3 + s - 2a + 8s - 4 - 3a + 3s] + 12s)$$

$$-4a + 2\cdot(a - (-1 - 5a + 12s) + 12s)$$

$$-4a + 2\cdot(a + 1 + 5a - 12s + 12s)$$

$$-4a + 12a + 2 = 8a + 2$$

Binome für den Kopf

1) $52 \cdot 48 = (50+2)(50-2) = 2.496$

2) $52^2 = (50+2)^2 = 2.704$

3) $57^2 = (60-3)^2 = 3.249$

	1)	2)
→ Vorne Quadrat	2.500	3600
→ Hinten Quadrat (Hand)	+4	+9
→ Vorne · Hinten · 2 | ±	+200	−360

Linearfaktor $(x+5)$

$$\lim_{x\to -5} \frac{10+2x}{\sqrt{6-2x}-4} = \frac{0}{0} \searrow \frac{\ldots(x+5)}{(x+5)\ldots}$$

NR:

$$\frac{2\cdot(x+5)}{\underbrace{\sqrt{6-2x}}_{a}\underbrace{-4}_{-b}} \cdot \frac{\sqrt{6-2x}+4}{\underbrace{\sqrt{6-2x}}_{a}\underbrace{+4}_{+b}}$$

$$\frac{2\cdot(x+5)\cdot(\sqrt{6-2x}+4)}{(6-2x)-16 = -2x-10 = -2\cdot(x+5)}$$

$$\lim_{x\to -5} \frac{\cancel{2}\cdot\overline{(x+5)}\cdot(\sqrt{6-2x}+4)}{\underbrace{-2}_{-1}\cdot\underline{(x+5)}} = \underline{\underline{-8}}$$