## Nmatrix (level 0) in KTB

•  $\mathcal{D} = \{t,T\}$ 

## Subformulas

- $(\varphi_0)$  p
- $(\varphi_1)$  q
- $(\varphi_2)$   $(p \rightarrow q)$
- $(\varphi_3) \square p$
- $(\varphi_4) \Box q$
- $(\varphi_5) \square (p \rightarrow q)$
- $(\varphi_6) (\Box p \rightarrow \Box q)$
- $(\varphi_7)$   $(\Box(p \rightarrow q) \rightarrow (\Box p \rightarrow \Box q))$

Id	$\varphi_0$	$\varphi_1$	$arphi_2$	$\varphi_3$	$\varphi_4$	$arphi_5$	$\varphi_6$	$\varphi_7$
$\overline{(1)}$	$\mathbf{F}$	$\mathbf{F}$	$\overline{\mathbf{T}}$	$\mathbf{F}$	F	$\mathbf{T}$	$\overline{\mathbf{T}}$	$\overline{\mathbf{T}}$
(2)	${f F}$	${f F}$	${f T}$	${f F}$	${f F}$	$\mathbf{t}$	${f T}$	${f T}$
(3)	${f F}$	${f f}$	${f T}$	${f F}$	${f F}$	${f T}$	${f T}$	${f T}$
(4)	${f F}$	${f f}$	${f T}$	${f F}$	${f F}$	${f t}$	${f T}$	${f T}$
(5)	${f F}$	${f t}$	${f T}$	${f F}$	${f F}$	${f T}$	${f T}$	${f T}$
(6)	${f F}$	${f t}$	${f T}$	${f F}$	${f F}$	${f t}$	${f T}$	${f T}$
(7)	${f F}$	${f t}$	${f T}$	${f F}$	${f f}$	${f T}$	${f T}$	${f T}$
(8)	${f F}$	${f t}$	${f T}$	${f F}$	${f f}$	${f t}$	${f T}$	${f T}$
(9)	${f F}$	${f T}$	${f T}$	${f F}$	${f T}$	${f T}$	${f T}$	${f T}$
(10)	${f F}$	${f T}$	${f T}$	${f F}$	${f T}$	${f t}$	${f T}$	${f T}$
(11)	${f F}$	${f T}$	${f T}$	${f F}$	$\mathbf{t}$	${f T}$	${f T}$	${f T}$
(12)	${f F}$	${f T}$	${f T}$	${f F}$	${f t}$	${f t}$	${f T}$	${f T}$
(13)	${f f}$	${f F}$	${f t}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(14)	${f f}$	${f F}$	${f t}$	${f F}$	${f F}$	${f f}$	${f T}$	${f T}$
(15)	${f f}$	${f f}$	${f T}$	${f F}$	${f F}$	${f T}$	${f T}$	${f T}$

Id	$\varphi_0$	$\varphi_1$	$arphi_2$	$\varphi_3$	$\varphi_4$	$arphi_5$	$\varphi_6$	$arphi_7$
$\overline{(16)}$	$\mathbf{f}$	f	$\mathbf{T}$	$\mathbf{F}$	$\mathbf{F}$	$\mathbf{t}$	$\mathbf{T}$	$\overline{\mathbf{T}}$
(17)	${f f}$	${f f}$	$\mathbf{t}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(18)	${f f}$	${f f}$	$\mathbf{t}$	${f F}$	${f F}$	${f f}$	${f T}$	${f T}$
(19)	${f f}$	$\mathbf{t}$	${f T}$	${f F}$	${f F}$	${f T}$	${f T}$	${f T}$
(20)	${f f}$	${f t}$	${f T}$	${f F}$	${f F}$	${f t}$	${f T}$	${f T}$
(21)	${f f}$	$\mathbf{t}$	${f T}$	${f F}$	${f f}$	${f T}$	${f T}$	${f T}$
(22)	${f f}$	$\mathbf{t}$	${f T}$	${f F}$	${f f}$	${f t}$	${f T}$	${f T}$
(23)	${f f}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(24)	${f f}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f F}$	${f f}$	${f T}$	${f T}$
(25)	${f f}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f f}$	${f F}$	${f T}$	${f T}$
(26)	${f f}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f f}$	${f f}$	${f T}$	${f T}$
(27)	${f f}$	${f T}$	${f T}$	${f F}$	${f T}$	${f T}$	${f T}$	${f T}$
(28)	${f f}$	${f T}$	${f T}$	${f F}$	${f T}$	${f t}$	${f T}$	${f T}$
(29)	${f f}$	${f T}$	${f T}$	${f F}$	${f t}$	${f T}$	${f T}$	${f T}$
(30)	${f f}$	${f T}$	${f T}$	${f F}$	${f t}$	${f t}$	${f T}$	${f T}$
(31)	${f t}$	${f F}$	${f f}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(32)	$\mathbf{t}$	${f F}$	${f f}$	${f f}$	${f F}$	${f F}$	${f t}$	${f T}$
(33)	$\mathbf{t}$	${f f}$	${f f}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(34)	$\mathbf{t}$	${f f}$	${f f}$	${f f}$	${f F}$	${f F}$	${f t}$	${f T}$
(35)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f F}$	${f F}$	${f T}$	${f T}$	${f T}$
(36)	$\mathbf{t}$	${f t}$	${f T}$	${f F}$	${f F}$	${f t}$	${f T}$	${f T}$
(37)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f F}$	${f f}$	${f T}$	${f T}$	${f T}$
(38)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f F}$	${f f}$	${f t}$	${f T}$	${f T}$
(39)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	f	${f F}$	${f T}$	$\mathbf{t}$	$\mathbf{t}$
(40)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	f	${f F}$	${f t}$	${f t}$	${f T}$
(41)	$\mathbf{t}$	$\mathbf{t}$	$\frac{\mathbf{T}}{-}$	f	$\mathbf{F}$	$\frac{\mathbf{t}}{-}$	$\frac{\mathbf{t}}{-}$	$\frac{\mathbf{t}}{}$
(42)	$\mathbf{t}$	$\mathbf{t}$	$\frac{\mathbf{T}}{-}$	f	$\mathbf{f}$	$\mathbf{T}$	${f T}$	${f T}$
(43)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{T}$	f	$\mathbf{f}$	${f T}$	$\frac{\mathbf{t}}{}$	$\frac{\mathbf{t}}{}$
(44)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{T}$	$\mathbf{f}$	$\mathbf{f}$	$\mathbf{t}$	${f T}$	$\mathbf{T}$
(45)	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f f}$	${f f}$	${f t}$	${f t}$	${f T}$

Id	$\varphi_0$	$\varphi_1$	$\varphi_2$	$\varphi_3$	$\varphi_4$	$arphi_5$	$\varphi_6$	$arphi_7$
$\overline{(46)}$	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{T}$	f	f	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$
(47)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f F}$	${f F}$	${f T}$	${f T}$
(48)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	${f F}$	${f F}$	${f f}$	${f T}$	${f T}$
(49)	$\mathbf{t}$	$\mathbf{t}$	${f t}$	${f F}$	${f f}$	${f F}$	${f T}$	${f T}$
(50)	$\mathbf{t}$	$\mathbf{t}$	${f t}$	${f F}$	${f f}$	${f f}$	${f T}$	${f T}$
(51)	${f t}$	${f t}$	${f t}$	${f f}$	${f F}$	${f F}$	${f t}$	${f T}$
(52)	${f t}$	${f t}$	${f t}$	${f f}$	${f F}$	${f f}$	${f t}$	${f T}$
(53)	${f t}$	${f t}$	$\mathbf{t}$	${f f}$	${f F}$	${f f}$	${f t}$	${f t}$
(54)	${f t}$	${f t}$	${f t}$	${f f}$	${f f}$	${f F}$	${f T}$	${f T}$
(55)	${f t}$	${f t}$	${f t}$	${f f}$	${f f}$	${f F}$	${f t}$	${f T}$
(56)	${f t}$	${f t}$	$\mathbf{t}$	${f f}$	${f f}$	${f f}$	${f T}$	${f T}$
(57)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	${f f}$	${f f}$	${f f}$	${f t}$	${f T}$
(58)	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	${f f}$	${f f}$	${f f}$	$\mathbf{t}$	$\mathbf{t}$
(59)	$\mathbf{t}$	${f T}$	${f T}$	${f F}$	${f T}$	${f T}$	${f T}$	${f T}$
(60)	$\mathbf{t}$	${f T}$	${f T}$	${f F}$	${f T}$	$\mathbf{t}$	${f T}$	${f T}$
(61)	$\mathbf{t}$	${f T}$	${f T}$	${f F}$	$\mathbf{t}$	${f T}$	${f T}$	${f T}$
(62)	$\mathbf{t}$	${f T}$	${f T}$	${f F}$	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f T}$
(63)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	${f T}$	${f T}$	${f T}$	${f T}$
(64)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	${f T}$	$\mathbf{t}$	${f T}$	${f T}$
(65)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	$\mathbf{t}$	${f T}$	${f T}$	${f T}$
(66)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	$\mathbf{t}$	${f T}$	$\mathbf{t}$	$\mathbf{t}$
(67)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	${f t}$	${f t}$	${f T}$	${f T}$
(68)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	${f t}$	${f t}$	${f t}$	${f T}$
(69)	$\mathbf{t}$	${f T}$	${f T}$	${f f}$	${f t}$	${f t}$	${f t}$	${f t}$
(70)	${f T}$	${f F}$	${f F}$	${f T}$	${f F}$	${f F}$	${f F}$	${f T}$
(71)	${f T}$	${f F}$	${f F}$	${f t}$	${f F}$	${f F}$	${f f}$	${f T}$
(72)	${f T}$	${f f}$	${f f}$	${f T}$	${f F}$	${f F}$	${f F}$	${f T}$
(73)	${f T}$	$\mathbf{f}$	${f f}$	$\mathbf{t}$	${f F}$	${f F}$	${f f}$	${f T}$
(74)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f F}$	${f F}$	${f F}$	${f T}$
(75)	${f T}$	${f t}$	${f t}$	${f T}$	${f F}$	${f f}$	${f F}$	$\mathbf{t}$

Id	$\varphi_0$	$\varphi_1$	$\varphi_2$	$arphi_3$	$\varphi_4$	$arphi_5$	$\varphi_6$	$\varphi_7$
(76)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	${f T}$	${f f}$	${f F}$	${f f}$	${f T}$
$(\gamma\gamma)$	${f T}$	${f t}$	${f t}$	${f T}$	${f f}$	${f f}$	${f f}$	${f T}$
(78)	${f T}$	${f t}$	${f t}$	${f T}$	${f f}$	${f f}$	${f f}$	${f t}$
(79)	${f T}$	${f t}$	${f t}$	${f t}$	${f F}$	${f F}$	${f f}$	${f T}$
(80)	${f T}$	${f t}$	${f t}$	${f t}$	${f F}$	${f f}$	${f f}$	${f T}$
(81)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	${f t}$	${f F}$	${f f}$	${f f}$	${f t}$
(82)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	${f t}$	${f f}$	${f F}$	${f f}$	${f T}$
(83)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	${f f}$	${f f}$	${f f}$	${f T}$
(84)	${f T}$	$\mathbf{t}$	$\mathbf{t}$	${f t}$	${f f}$	${f f}$	${f f}$	${f t}$
(85)	${f T}$							
(86)	${f T}$							
(87)	${f T}$	${f T}$	${f T}$	${f T}$	$\mathbf{t}$	${f T}$	${f t}$	${f t}$
(88)	${f T}$	${f T}$	${f T}$	${f T}$	$\mathbf{t}$	${f t}$	${f t}$	${f T}$
(89)	${f T}$	${f T}$	${f T}$	${f T}$	$\mathbf{t}$	${f t}$	${f t}$	${f t}$
(90)	${f T}$							
(91)	${f T}$							
(92)	${f T}$							
(93)	${f T}$							
(94)	${f T}$							
(95)	${f T}$							
(96)	$\mathbf{T}$	${f T}$	T	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$	$\mathbf{t}$