

t41_gate_1
(TMVjHAEixKu1ZtyEYiC2opf9hksdA1pxQWw)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k34_gate_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k1_gate_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \tag{1}$$

Assume the following.

$$\forall X0.(v1_xboole_0 \ X0) \Rightarrow (\neg v1_xboole_0 \ (k1_gate_1 \ X0)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(\neg(\neg(v1_xboole_0 \ X0) \wedge (v1_xboole_0 \ X1)) \wedge \\ & ((\neg(\neg v1_xboole_0 \ X0) \wedge (\neg v1_xboole_0 \ X1)) \wedge (k34_gate_1 \ X0 \ X1 \neq k1_gate_1 \\ & \quad k1_xboole_0))) \wedge ((\neg(\neg(v1_xboole_0 \ X0) \wedge (v1_xboole_0 \ X1)) \wedge (\neg \\ & (\neg v1_xboole_0 \ X0) \wedge (\neg v1_xboole_0 \ X1)))) \Rightarrow (k34_gate_1 \ X0 \ X1 = k1_xboole_0)) \end{aligned} \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.(\neg v1_xboole_0 \ (k34_gate_1 \ X0 \ X1)) \Leftrightarrow ((\neg(v1_xboole_0 \ X0) \wedge (v1_xboole_0 \ X1)) \wedge (\neg(\neg v1_xboole_0 \ X0) \wedge (\neg v1_xboole_0 \ X1)))$$