

t20_gate_1
(TMFPBhQv3yqa324A4rwZxZi81qQdoGmx6QZ)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k14_gate_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(\neg(\neg v1_xboole_0 \\ & X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge ((\neg v1_xboole_0 \ X3) \wedge \\ & (k14_gate_1 \ X0 \ X1 \ X2 \ X3 \neq k1_gate_1 \ k1_xboole_0)))))) \wedge ((\neg(\neg v1_xboole_0 \\ & X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \ X2) \wedge (\neg v1_xboole_0 \ X3)))))) \Rightarrow \\ & (k14_gate_1 \ X0 \ X1 \ X2 \ X3 = k1_xboole_0) \end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(\neg v1_xboole_0 \ (k14_gate_1 \\ & X0 \ X1 \ X2 \ X3)) \Leftrightarrow ((\neg v1_xboole_0 \ X0) \wedge ((\neg v1_xboole_0 \ X1) \wedge ((\neg v1_xboole_0 \\ & X2) \wedge (\neg v1_xboole_0 \ X3)))) \end{aligned}$$