

t10_gate_1 (TM-
Rhc7zdQ5DdYcNvfRwL7QWpwvUkziJdVdw)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k5_gate_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (\neg v1_xboole_0 X1)) \Rightarrow (\neg v1_xboole_0 (k5_gate_1 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \Rightarrow (\neg v1_xboole_0 (k5_gate_1 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xboole_0 X0) \wedge (\neg v1_xboole_0 X1)) \Rightarrow (v1_xboole_0 (k5_gate_1 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k5_gate_1 X0 X1 = k5_gate_1 X1 X0 \quad (4)$$

Theorem 1

$$\forall X0. \forall X1. (\neg v1_xboole_0 (k5_gate_1 X0 X1)) \Leftrightarrow ((\neg(\neg v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \wedge (\neg(\neg v1_xboole_0 X1) \wedge (v1_xboole_0 X0)))$$