

t5_gate_1 (TMVMBsUzLyH- nyRr2dXzoN2yRJf41V5LkWXa)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_gate_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \Rightarrow (v1_xboole_0 (k3_gate_1 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (\neg v1_xboole_0 X1) \Rightarrow (\neg v1_xboole_0 (k3_gate_1 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k3_gate_1 X0 X1 = k3_gate_1 X1 X0 \quad (3)$$

Theorem 1

$$\forall X0. \forall X1. (\neg(\neg v1_xboole_0 (k3_gate_1 X0 X1)) \wedge ((v1_xboole_0 X0) \wedge (v1_xboole_0 X1))) \wedge (\neg(\neg v1_xboole_0 X0) \wedge (v1_xboole_0 X1)) \wedge (v1_xboole_0 (k3_gate_1 X0 X1))$$