t18_gate_1 (TMdqKU1fMzYXtNZqFJA1xpj9yZGqL7G1AJM)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k12\_gate\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.\forall X2.((\neg(\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (\neg v1\_xboole\_0\ X2))) \Rightarrow (k12\_gate\_1\ X0\ X1\ X2 = k1\_gate\_1\ k1\_xboole\_0)) \wedge (\neg(\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((\neg v1\_xboole\_0\ X2) \wedge (k12\_gate\_1\ X0\ X1\ X2 \neq k1\_xboole\_0)))) \tag{3}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.(\neg(\neg v1\_xboole\_0\ (k12\_gate\_1\ X0\ X1\ X2)) \wedge ((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (\neg v1\_xboole\_0\ X2)))) \wedge (\neg(\neg(\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (\neg v1\_xboole\_0\ X2))) \wedge (v1\_xboole\_0\ (k12\_gate\_1\ X0\ X1\ X2)))$$