

t114_xboole_1
(TMTwZGtbjoH4NcAqssdrnoZfcK5W4Enyurd)

October 27, 2020

Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (\neg(\neg r1_xboole_0 X0 (k2_xboole_0 X1 X2)) \wedge ((r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2))) \wedge (\neg(\neg(r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2)) \wedge (r1_xboole_0 X0 (k2_xboole_0 X1 X2))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k2_xboole_0 X0 X1 = k2_xboole_0 X1 X0 \quad (3)$$

Theorem 1

$$\forall X0. \forall X1. \forall X2. \forall X3. ((r1_xboole_0 X0 X3) \wedge ((r1_xboole_0 X1 X3) \wedge (r1_xboole_0 X2 X3))) \Rightarrow (r1_xboole_0 (k2_xboole_0 (k2_xboole_0 X0 X1) X2) X3)$$