

t2_xregular
(TMV5mQ5rT94yWHHxi3uETcKDTWPqYs1wLFM)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. \forall X2. (\neg(\neg r1_xboole_0 X0 (k2_xboole_0 X1 X2)) \wedge ((r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2))) \wedge (\neg(\neg(r1_xboole_0 X0 X1) \wedge (r1_xboole_0 X0 X2)) \wedge (r1_xboole_0 X0 (k2_xboole_0 X1 X2))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1_xboole_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1_xboole_0 X0 X1)) \quad (3)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\exists X1. (X1 \in X0) \wedge (r1_xboole_0 X1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (r1_xboole_0 X0 X1) \Rightarrow (r1_xboole_0 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0 : \iota \Rightarrow o. \forall X1. \exists X2. \forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X1) \wedge (X0 X3)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (\neg v1_xboole_0 X0) \Rightarrow (\neg v1_xboole_0 (k2_xboole_0 X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1_xboole_0 X0)\Rightarrow(\neg v1_xboole_0 (k2_xboole_0 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k3_tarski X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.(X2 \in X3)\wedge(X3 \in X0))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\vee(X3 \in X1))) \quad (10)$$

Theorem 1

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\exists X1.(X1 \in X0)\wedge(\forall X2.(X2 \in X1)\Rightarrow(r1_xboole_0 X2 X0)))$$