

t138_relat_1

(TMGZkW29odLN9TA7dmKSAKcdQGzb3fxvrkg)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r1_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0.k3_xboole_0 X0 k1_xboole_0 = k1_xboole_0 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_relat_1 X2) \Rightarrow ((X0 \in k8_relat_1 X2 X1) \Leftrightarrow (\exists X3.(X3 \in k10_xtuple_0 X2) \wedge ((k4_tarski X0 X3 \in X2) \wedge (X3 \in X1)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0) \wedge (v1_xboole_0 X1)) \Rightarrow (v1_xboole_0 (k8_relat_1 X0 X1)) \quad (5)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (6)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v1_xboole_0 (k10_xtuple_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1_xboole_0 X0 X1)\Leftrightarrow(k3_xboole_0 X0 X1 = k1_xboole_0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k10_xtuple_0 X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.k4_tarski X3 X2 \in X0)) \quad (9)$$

Theorem 1

$$\forall X0.\forall X1.(v1_relat_1 X1)\Rightarrow((k8_relat_1 X1 X0 = k1_xboole_0)\Leftrightarrow (r1_xboole_0 (k10_xtuple_0 X1) X0))$$