

t3_relat_2

(TMdX9ao6XyNFNoJ7VMNZCZPKzKugYENjGXX)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r4_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X0) \Rightarrow (v1_relat_1 (k4_xboole_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. v1_relat_1 (k4_relat_1 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (3)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r5_relat_2 X0 X1) \Leftrightarrow (\forall X2. \forall X3. \neg (X2 \in X1) \wedge ((X3 \in X1) \wedge ((k4_tarski X2 X3 \in X0) \wedge (k4_tarski X3 X2 \in X0)))))) \quad (4)$$

Assume the following.

$$\forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r4_relat_2 X0 X1) \Leftrightarrow (\forall X2. \forall X3. ((X2 \in X1) \wedge ((X3 \in X1) \wedge ((k4_tarski X2 X3 \in X0) \wedge (k4_tarski X3 X2 \in X0)))) \Rightarrow (X2 = X3))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow ((X1 = k4_relat_1 X0) \Leftrightarrow (\forall X2. \forall X3. (k4_tarski X2 X3 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (X2 = X3)))) \quad (6)$$

Theorem 1

$$\forall X0. \forall X1. (v1_relat_1 X1) \Rightarrow ((r4_relat_2 X1 X0) \Leftrightarrow (r5_relat_2 (k4_xboole_0 X1 (k4_relat_1 X0)) X0))$$