

t22_relat_1

(TMQqMzZC2Bd2Gi42WpZRCG1F9dbmCowTgYr)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k2_relat_1 : \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k2_relat_1 (k2_relat_1 X0) = X0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k3_xboole_0 X0 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (v1_relat_1 (k2_relat_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((X1 = k2_relat_1 X0) \Leftrightarrow (\forall X2.\forall X3.(k4_tarski X2 X3 \in X1) \Leftrightarrow (k4_tarski X3 X2 \in X0)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (7)$$

Theorem 1

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow (k2_relat_1 (k3_xboole_0 X0 X1) = k3_xboole_0 (k2_relat_1 X0) (k2_relat_1 X1)))$$