

t12_relat_2

(TMSikWv5oxVqAeZEqSerZDPy3C8LLiqsDcq)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_relat_1 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_relat_2 X0)) \Rightarrow ((v1_relat_1 (k2_relat_1 X0)) \wedge (v1_relat_2 (k2_relat_1 X0))) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v1_relat_2 X0) \Leftrightarrow (r1_relat_2 X0 (k1_relat_1 X0))) \quad (4)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(v1_relat_1 X1) \Rightarrow ((X1 = k2_relat_1 X0) \Leftrightarrow (\forall X2.\forall X3.(k4_tarski X2 X3 \in X1) \Leftrightarrow (k4_tarski X3 X2 \in X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k2_xboole_0 (k9_xtuple_0 X0) (k10_xtuple_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_xboole_0 X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 \in X0) \vee (X3 \in X1))) \quad (7)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r1_relat_2 X0 X1) \Leftrightarrow (\forall X2.(X2 \in X1) \Rightarrow (k4_tarski X2 X2 \in X0))) \quad (8)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(X1 = k9_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.k4_tarski X2 X3 \in X0)) \quad (10)$$

Theorem 1

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v1_relat_2 X0) \Rightarrow ((k9_xtuple_0 X0 = k9_xtuple_0 (k2_relat_1 X0)) \wedge (k10_xtuple_0 X0 = k10_xtuple_0 (k2_relat_1 X0))))$$