

t61_orders_1

(TMYoVMCitSNXVabs1VGgec5pTak9646tWd4)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r9_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r8_orders_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_relat_1 : \iota \Rightarrow \iota$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (k1_relat_1 X0 = k1_relat_1 (k2_relat_1 X0)) \quad (1)$$

Assume the following.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r9_orders_1 X0 X1) \Leftrightarrow ((X1 \in k1_relat_1 X0) \wedge (\forall X2.(X2 \in k1_relat_1 X0) \Rightarrow ((X2 = X1) \vee (k4_tarski X1 X2 \in X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r8_orders_1 X0 X1) \Leftrightarrow ((X1 \in k1_relat_1 X0) \wedge (\forall X2.(X2 \in k1_relat_1 X0) \Rightarrow ((X2 = X1) \vee (k4_tarski X2 X1 \in X0)))) \quad (6)$$

Theorem 1

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.(r9_orders_1 X0 X1) \Leftrightarrow (r8_orders_1 (k2_relat_1 X0) X1))$$