

t11_ordinal4

(TMWQbb6ZVHKmUnMmwqow7RsxpnZmA86ArmA)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_ordinal2 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal2 : \iota \Rightarrow o$ be given. Let $k8_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. (\forall X1. (X1 \in X0) \Rightarrow ((v3_ordinal1 X1) \wedge (r1_tarski X1 X0))) \Rightarrow (v3_ordinal1 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)) \quad (3)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow (v3_ordinal1 (k9_xtuple_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 = k8_relat_1 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in k9_xtuple_0 X0) \wedge (k1_funct_1 X0 X3 \in X1)))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5_ordinal1\ X0)\wedge((v1_relat_1\ X0)\wedge((v1_funct_1 \\ X0)\wedge(v1_ordinal2\ X0))))\Rightarrow((v2_ordinal2\ X0)\Leftrightarrow(\forall X1.(v3_ordinal1 \\ X1)\Rightarrow(\forall X2.(v3_ordinal1\ X2)\Rightarrow(((X1\ \in\ X2)\wedge(X2\ \in\ k9_xtuple_0 \\ X0))\Rightarrow(k1_funct_1\ X0\ X1\ \in\ k1_funct_1\ X0\ X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v3_ordinal1\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow (v3_ordinal1\ X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v3_ordinal1\ X0)\Rightarrow((v1_ordinal1\ X0)\wedge(v2_ordinal1\ X0)) \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1\ X0)\wedge((v5_ordinal1\ X0)\wedge((v1_funct_1 \\ X0)\wedge(v1_ordinal2\ X0))))\Rightarrow(\forall X1.(v3_ordinal1\ X1)\Rightarrow((v2_ordinal2 \\ X0)\Rightarrow(v3_ordinal1\ (k8_relat_1\ X0\ X1)))) \end{aligned}$$