

t10_ordinal4 (TM-
SNQDyD3B3Zx7ECxoBdVFDeZbMhMuShdiR)

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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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (r1_tarski X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (v3_ordinal1 X1) \Rightarrow ((r1_ordinal1 X0 X1) \vee (X1 \in X0))) \quad (2)$$

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.

$$\forall X0 : \iota \Rightarrow o. (\exists X1. (v3_ordinal1 X1) \wedge (X0 X1)) \Rightarrow (\exists X1. (v3_ordinal1 X1) \wedge ((X0 X1) \wedge (\forall X2. (v3_ordinal1 X2) \Rightarrow ((X0 X2) \Rightarrow (r1_ordinal1 X1 X2)))))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow ((r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1)) \quad (5)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow (v3_ordinal1 (k9_xtuple_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v5_ordinal1\ X0)\wedge((v1_relat_1\ X0)\wedge(v1_funct_1\ X0)\wedge(v1_ordinal2\ X0))))\wedge(v3_ordinal1\ X1)\Rightarrow(v3_ordinal1\ (k1_funct_1\ X0\ X1)) \quad (7)$$

Assume the following.

$$\forall X0.((v5_ordinal1\ X0)\wedge((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_ordinal2\ X0))))\Rightarrow((v2_ordinal2\ X0)\Leftrightarrow(\forall X1.(v3_ordinal1\ X1)\Rightarrow(\forall X2.(v3_ordinal1\ X2)\Rightarrow(((X1\in X2)\wedge(X2\in k9_xtuple_0\ X0))\Rightarrow(k1_funct_1\ X0\ X1\in k1_funct_1\ X0\ X2)))))) \quad (8)$$

Assume the following.

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

Theorem 1

$$\forall X0.((v1_relat_1\ X0)\wedge((v5_ordinal1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_ordinal2\ X0))))\Rightarrow(\forall X1.(v3_ordinal1\ X1)\Rightarrow(((v2_ordinal2\ X0)\wedge(X1\in k9_xtuple_0\ X0))\Rightarrow(r1_ordinal1\ X1\ (k1_funct_1\ X0\ X1))))$$