

t13_ordinal6

(TMHrVHx1SGcD5PgQsskeHZCHVgzhPZ6RHw2)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_ordinal2 : \iota \Rightarrow o$ be given. Let $v2_ordinal5 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_relat_1 X2) \Rightarrow ((X0 \in k9_xtuple_0 \\ (k5_relat_1 X2 X1)) \Leftrightarrow ((X0 \in X1) \wedge (X0 \in k9_xtuple_0 X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 \\ X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1_funct_1 (k5_relat_1 X2 X1) X0 = k1_funct_1 X2 \\ X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge \\ (X1 \in X2)) \Rightarrow (X0 \in X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 \\ (k5_relat_1 X0 X1)) \wedge (v1_funct_1 (k5_relat_1 X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 \\ X0))) \wedge (v3_ordinal1 X1)) \Rightarrow ((v1_relat_1 (k5_relat_1 X0 X1)) \wedge ((\\ v5_relat_1 (k5_relat_1 X0 X1) (k10_xtuple_0 X0)) \wedge (v5_ordinal1 \\ (k5_relat_1 X0 X1)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1_relat_1 X0) \Rightarrow (v1_relat_1 (k5_relat_1 \\ X0 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow \\ ((v2_ordinal5 X0) \Leftrightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ (v3_ordinal1 X2) \Rightarrow (((X1 \in X2) \wedge (X2 \in k9_xtuple_0 X0)) \Rightarrow (r1_tarski \\ (k1_funct_1 X0 X1) (k1_funct_1 X0 X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((v1_ordinal1 X0) \wedge (v2_ordinal1 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((\\ v1_funct_1 X1) \wedge ((v5_ordinal1 X1) \wedge (v1_ordinal2 X1)))) \Rightarrow ((v2_ordinal5 \\ X1) \Rightarrow (v2_ordinal5 (k5_relat_1 X1 X0)))) \end{aligned}$$