

t73_ordinal6
(TMWDNM9ddaDq149D7LEp6qvSBxBxttDgAMR)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k12_ordinal6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((X0 \in X1) \Leftrightarrow (k12_ordinal6 X2 X0 \in k12_ordinal6 \\ & X2 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((X0 \in X1) \Rightarrow (k12_ordinal6 X0 (k12_ordinal6 X1 \\ & X2) = k12_ordinal6 X1 X2)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\neg \\ & (\neg X0 \in X1) \wedge ((X0 \neq X1) \wedge (\neg X1 \in X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (\\ & v3_ordinal1 (k12_ordinal6 X0 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (\neg X1 \in X0) \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow (\forall X3.(v3_ordinal1 X3) \Rightarrow ((k12_ordinal6 \\ & X0 X1 \in k12_ordinal6 X2 X3) \Leftrightarrow (\neg(\neg(X0 = X2) \wedge (X1 \in X3)) \wedge (\neg(X0 \in X2) \wedge \\ & (X1 \in k12_ordinal6 X2 X3)) \wedge (\neg(X2 \in X0) \wedge (k12_ordinal6 X0 X1 \in X3)))))) \end{aligned}$$