

t17_ordinal3
(TMcS9izaFt5PAHmHuitCMXuHbKkrST7Tdvwy)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((r1_ordinal1 X0 X1) \Rightarrow (r1_ordinal1 (k10_ordinal2 \\ & X0 X2) (k10_ordinal2 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((X0 \in X1) \Rightarrow (k10_ordinal2 X2 X0 \in k10_ordinal2 \\ & X2 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((r1_ordinal1 X0 X1) \vee (X1 \in X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(v3_ordinal1 X1) \Rightarrow ((X0 \in X1) \Rightarrow (v3_ordinal1 X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (v3_ordinal1 (k10_ordinal2 X0 X1)) \tag{5}$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((r1_ordinal1 X0 X1) \Leftrightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow ((X2 \in X0) \Rightarrow (X2 \in X1)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (\neg X1 \in X0) \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.(v3_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1\ X2) \Rightarrow (\forall X3.(v3_ordinal1\ X3) \Rightarrow ((X2 \in X3) \Rightarrow (((\\ & \neg r1_ordinal1\ X0\ X1) \wedge (\neg X0 \in X1)) \vee (k10_ordinal2\ X0\ X2 \in k10_ordinal2 \\ & X1\ X3)))))) \end{aligned}$$