

t72\_ordinal3 (TM-  
NxBCEGQw2FfwQbt6VaMHPXFnMbCzPfXv3)

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Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_ordinal2 : \iota \Rightarrow \iota$  be given. Let  $k1\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarski X0 (k3\_tarski X1)) \quad (1)$$

Assume the following.

$$\forall X0. v3\_ordinal1 (k3\_tarski (k2\_ordinal1 X0)) \quad (2)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. (v3\_ordinal1 X1) \Rightarrow ((X0 \in k1\_ordinal1 X1) \Leftrightarrow (r1\_ordinal1 X0 X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow (r1\_ordinal1 X0 X1 \Leftrightarrow (r1\_tarski X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow ((\neg v1\_xboole\_0 (k1\_ordinal1 X0)) \wedge (v3\_ordinal1 (k1\_ordinal1 X0))) \quad (5)$$

Assume the following.

$$\forall X0. v3\_ordinal1 (k3\_ordinal2 X0) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k2\_ordinal1 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (v3\_ordinal1 X2))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v3\_ordinal1\ X1)\Rightarrow((X1 = k3\_ordinal2\ X0)\Leftrightarrow \\ & ((r1\_tarski\ (k2\_ordinal1\ X0)\ X1)\wedge(\forall X2.(v3\_ordinal1\ X2)\Rightarrow \\ & ((r1\_tarski\ (k2\_ordinal1\ X0)\ X2)\Rightarrow(r1\_ordinal1\ X1\ X2)))))) \end{aligned} \quad (9)$$

**Theorem 1**

$$\forall X0.r1\_tarski\ (k3\_ordinal2\ X0)\ (k1\_ordinal1\ (k3\_tarski\ (k2\_ordinal1\ X0)))$$