

t12_ordinal1

(TMc91Dkbu1abp4Cz8Pk6bB1S1cYqtXq9Jx)

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Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((r2_xboole_0 X0 X1) \Rightarrow (X0 \in X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(r2_xboole_0 X0 X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (X0 \neq X1)) \quad (3)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((v1_ordinal1 X0) \wedge (v2_ordinal1 X0)) \quad (4)$$

Theorem 1

$$\forall X0.(v1_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow (((r1_tarski X0 X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2))))$$