

t15_ordinal2

(TMaWM4yagy9QM4E92j8oTYzxiHUUJ7MMPYgn)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_ordinal1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k2_ordinal2 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_setfam_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. ((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. v3_ordinal1 (k2_ordinal2 X0) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k2_ordinal1 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow ((X2 \in X0) \wedge (v3_ordinal1 X2))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (4)$$

Assume the following.

$$\forall X0. k2_ordinal2 X0 = k1_setfam_1 (k2_ordinal1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((X0 \neq k1_xboole_0) \Rightarrow ((X1 = k1_setfam_1 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\forall X3. (X3 \in X0) \Rightarrow (X2 \in X3)))))) \wedge ((X0 = k1_xboole_0) \Rightarrow ((X1 = k1_setfam_1 X0) \Leftrightarrow (X1 = k1_xboole_0))) \quad (6)$$

Theorem 1

$$\forall X0. (v3_ordinal1 X0) \Rightarrow (\forall X1. (\forall X2. (v3_ordinal1 X2) \Rightarrow ((X2 \in X1) \Rightarrow (r1_ordinal1 X0 X2)))) \Rightarrow ((k2_ordinal1 X1 = k1_xboole_0) \vee (r1_ordinal1 X0 (k2_ordinal2 X1))))$$