

t7_card_1

(TMEkHjYw7bo3v6MwCN9zGc3PgwKENq9rAtE)

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Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_wellord1 : \iota \Rightarrow o$ be given. Let $k1_wellord2 : \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r2_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relat_1 : \iota \Rightarrow \iota$ be given. Let $k2_wellord2 : \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(r1_tarski X1 X0) \Rightarrow (v2_wellord1 (k1_wellord2 X1))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow ((v2_wellord1 X0) \Rightarrow (r2_wellord2 (k1_relat_1 X0) (k2_wellord2 X0))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r2_wellord2 X0 X1) \wedge (r2_wellord2 X1 X2)) \Rightarrow (r2_wellord2 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(v3_ordinal1 X1) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_ordinal1 (k2_wellord2 (k1_wellord2 X0)) X1)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow ((r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (v3_ordinal1 (k2_wellord2 X0)) \quad (7)$$

Assume the following.

$$\forall X0.v1_relat_1 (k1_wellord2 X0) \quad (8)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(v1_card_1 X1) \Rightarrow ((X1 = k1_card_1 X0) \Leftrightarrow (r2_wellord2 X0 X1)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow ((X1 = k1_wellord2 X0) \Leftrightarrow \\ ((k1_relat_1 X1 = X0) \wedge (\forall X2.\forall X3.((X2 \in X0) \wedge (X3 \in X0)) \Rightarrow \\ ((k4_tarski X2 X3 \in X1) \Leftrightarrow (r1_tarski X2 X3)))))) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_card_1 X0) \Leftrightarrow (\exists X1.(v3_ordinal1 X1) \wedge ((X0 = \\ X1) \wedge (\forall X2.(v3_ordinal1 X2) \Rightarrow ((r2_wellord2 X2 X1) \Rightarrow (r1_ordinal1 \\ X1 X2)))))) \quad (12) \end{aligned}$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (13)$$

Theorem 1

$$\forall X0.\forall X1.(v1_card_1 X1) \Rightarrow ((r1_tarski X0 X1) \Rightarrow (r1_ordinal1 (k1_card_1 X0) X1))$$