

t22_ordinal5

(TMR3qVcLJTnYHFQwDWXviPaLKhEAyEfS6r1)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_ordinal2 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_ordinal5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_ordinal5 : \iota \Rightarrow o$ be given. Let $r1_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow (((r1_ordinal1 X0 X1) \wedge (k6_numbers \in X2)) \Rightarrow (r1_ordinal1 \\ & (k1_ordinal5 X2 X0) (k1_ordinal5 X2 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge \\ & (X1 \in X2)) \Rightarrow (X0 \in X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v3_ordinal1 X0) \wedge (v3_ordinal1 X1)) \Rightarrow (\\ & (r1_ordinal1 X0 X1) \Leftrightarrow (r1_tarski X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow \\ & (v3_ordinal1 (k9_xtuple_0 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v5_ordinal1 X0) \wedge ((v1_relat_1 X0) \wedge \\ & (v1_funct_1 X0) \wedge (v1_ordinal2 X0)))) \wedge (v3_ordinal1 X1)) \Rightarrow (v3_ordinal1 \\ & (k1_funct_1 X0 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow \\ ((v2_ordinal5 X0) \Leftrightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ (v3_ordinal1 X2) \Rightarrow (((X1 \in X2) \wedge (X2 \in k9_xtuple_0 X0)) \Rightarrow (r1_tarski \\ (k1_funct_1 X0 X1) (k1_funct_1 X0 X2))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v1_ordinal1 X0) \Leftrightarrow (\forall X1.(X1 \in X0) \Rightarrow (r1_tarski X1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((v1_ordinal1 X0) \wedge (v2_ordinal1 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((\\ v1_funct_1 X1) \wedge ((v5_ordinal1 X1) \wedge (v1_ordinal2 X1)))) \Rightarrow (((k6_numbers \in \\ X0) \wedge (\forall X2.(v3_ordinal1 X2) \Rightarrow ((X2 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 \\ X1 X2 = k1_ordinal5 X0 X2)))) \Rightarrow (v2_ordinal5 X1))) \end{aligned}$$