

t18_ordinal4 (TMMbVS- NobE7KoqXfxBxvTDmz3USCvHbbMhs)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_ordinal2 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_ordinal2 : \iota \Rightarrow o$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((X0 \in X1) \Rightarrow (k10_ordinal2 X2 X0 \in k10_ordinal2 \\ & X2 X1)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)) \tag{2}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v5_ordinal1 X0))) \Rightarrow (v3_ordinal1 (k9_xtuple_0 X0)) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v5_ordinal1 X0) \wedge ((v1_relat_1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge (v1_ordinal2 X0)))) \Rightarrow ((v2_ordinal2 X0) \Leftrightarrow (\forall X1.(v3_ordinal1 \\ & X1) \Rightarrow (\forall X2.(v3_ordinal1 X2) \Rightarrow (((X1 \in X2) \wedge (X2 \in k9_xtuple_0 \\ & X0)) \Rightarrow (k1_funct_1 X0 X1 \in k1_funct_1 X0 X2)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v3_ordinal1 X0) \Rightarrow ((v1_ordinal1 X0) \wedge (v2_ordinal1 X0)) \tag{5}$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge (v1_ordinal2 X0)))) \Rightarrow (\forall X1.(v3_ordinal1 X1) \Rightarrow ((\forall X2. \\ & (v3_ordinal1 X2) \Rightarrow ((X2 \in k9_xtuple_0 X0) \Rightarrow (k1_funct_1 X0 X2 = k10_ordinal2 \\ & X1 X2)))) \Rightarrow (v2_ordinal2 X0)) \end{aligned}$$