

t25\_ordinal4  
(TMRpZ5xBrg1ciy6YErHzzwNqkxF699PqcfF)

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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  $np\_1 : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3\_ordinal1 X2) \Rightarrow (((np\_1 \in X0) \wedge (X1 \in X2)) \Rightarrow (k12\_ordinal2 X0 X1 \in \\ & k12\_ordinal2 X0 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1\_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge \\ & (X1 \in X2)) \Rightarrow (X0 \in X2)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v5\_ordinal1 X0))) \Rightarrow \\ & (v3\_ordinal1 (k9\_xtuple\_0 X0)) \end{aligned} \tag{3}$$

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**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 \\ & X0) \wedge (v1\_ordinal2 X0)))) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (((np\_1 \in \\ & X1) \wedge (\forall X2.(v3\_ordinal1 X2) \Rightarrow ((X2 \in k9\_xtuple\_0 X0) \Rightarrow (k1\_funct\_1 \\ & X0 X2 = k12\_ordinal2 X1 X2)))))) \Rightarrow (v2\_ordinal2 X0)) \end{aligned}$$