

# t19\_ordinal4 (TMWyzvsMoR- WSso4SE2RHktZ9DJSDYJBV7in)

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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  $k11\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  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.

$$\begin{aligned} & \forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (\forall X2. \\ & (v3\_ordinal1 X2) \Rightarrow ((X1 \in X2) \Rightarrow ((X0 = k1\_xboole\_0) \vee (k11\_ordinal2 \\ & X1 X0 \in k11\_ordinal2 X2 X0)))))) \end{aligned} \quad (1)$$

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.

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

Assume the following.

$$\begin{aligned} & \forall X0.(((v5\_ordinal1 X0) \wedge ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 \\ & X0) \wedge (v1\_ordinal2 X0)))) \Rightarrow ((v2\_ordinal2 X0) \Leftrightarrow (\forall X1.(v3\_ordinal1 \\ & X1) \Rightarrow (\forall X2.(v3\_ordinal1 X2) \Rightarrow (((X1 \in X2) \wedge (X2 \in k9\_xtuple\_0 \\ & X0)) \Rightarrow (k1\_funct\_1 X0 X1 \in k1\_funct\_1 X0 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow ((v1\_ordinal1 X0) \wedge (v2\_ordinal1 X0)) \quad (5)$$

## Theorem 1

$$\begin{aligned} & \forall X0.(((v1\_relat\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge ((v1\_funct\_1 \\ & X0) \wedge (v1\_ordinal2 X0)))) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((\forall X2. \\ & (v3\_ordinal1 X2) \Rightarrow ((X2 \in k9\_xtuple\_0 X0) \Rightarrow (k1\_funct\_1 X0 X2 = k11\_ordinal2 \\ & X2 X1)))) \Rightarrow ((X1 = k1\_xboole\_0) \vee (v2\_ordinal2 X0)))) \end{aligned}$$