

# t45\_ordinal5 (TMZSGPqWuG- PXH1aoLwP645qz6vCm7ic5cDH)

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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  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_ordinal5 : \iota \Rightarrow \iota$  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.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow ((X0 \in X1) \Rightarrow (k3\_ordinal5 X0 \in k3\_ordinal5 X1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_ordinal1 X2) \Rightarrow (((X0 \in X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)) \quad (2)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v5\_ordinal1 X0))) \Rightarrow (v3\_ordinal1 (k9\_xtuple\_0 X0)) \quad (3)$$

Assume the following.

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

Assume the following.

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

## Theorem 1

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v5\_ordinal1 X0) \wedge (v1\_ordinal2 X0)))) \Rightarrow ((\forall X1.(v3\_ordinal1 X1) \Rightarrow ((X1 \in k9\_xtuple\_0 X0) \Rightarrow (k1\_funct\_1 X0 X1 \in k3\_ordinal5 X1))) \Rightarrow (v2\_ordinal2 X0))$$