t15_ordinal4 (TMZKZ6pLxkWThszXpvotPHdUAxjDT1i6bVZ)

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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 $v2\_ordinal2 : \iota \Rightarrow o$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_ordinal1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v2\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow (r1\_tarski\ (k9\_xtuple\_0\ (k5\_relat\_1\ X1\ X0))\ (k9\_xtuple\_0\ X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)) \wedge (v1\_xboole\_0\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0\ (k5\_relat\_1\ X2\ X1)) \Rightarrow (k1\_funct\_1\ (k5\_relat\_1\ X2\ X1)\ X0 = k1\_funct\_1\ X2\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_ordinal1\ X2)\Rightarrow(((X0 \in X1)\wedge (X1 \in X2))\Rightarrow(X0 \in X2)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k5\_relat\_1\ X0\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v5\_ordinal1\ X0)))\wedge(v3\_ordinal1\ X1))\Rightarrow((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1))\wedge((v5\_relat\_1\ (k5\_relat\_1\ X0\ X1)\ (k10\_xtuple\_0\ X0))\wedge(v5\_ordinal1\ (k5\_relat\_1\ X0\ X1)))) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v5\_ordinal1\ X0)))\Rightarrow(v3\_ordinal1\ (k9\_xtuple\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(((v5\_ordinal1\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_ordinal2\ X0))))\wedge(v3\_ordinal1\ X1))\Rightarrow((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1))\wedge(v1\_ordinal2\ (k5\_relat\_1\ X0\ X1))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0)\Rightarrow(v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \tag{12}$$

Assume the following.

$$\forall X0.((v5\_ordinal1\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_ordinal2\ X0))))\Rightarrow((v2\_ordinal2\ X0)\Leftrightarrow(\forall X1.(v3\_ordinal1\ X1)\Rightarrow(\forall X2.(v3\_ordinal1\ X2)\Rightarrow(((X1 \in X2)\wedge(X2 \in k9\_xtuple\_0\ X0))\Rightarrow(k1\_funct\_1\ X0\ X1 \in k1\_funct\_1\ X0\ X2))))) \tag{13}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow((v1\_ordinal1\ X0)\wedge(v2\_ordinal1\ X0)) \tag{14}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_ordinal2\ X0))))\Rightarrow(\forall X1.(v3\_ordinal1\ X1)\Rightarrow((v2\_ordinal2\ X0)\Rightarrow(v2\_ordinal2\ (k5\_relat\_1\ X0\ X1))))$$