t24_afinsq_1 (TMTQ5rAzNJ36Ay3DcW6MQcfJ9x67rRJuyHg)

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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 $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_ordinal4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $k2\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_card\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_card\_1 : \iota \Rightarrow o$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))) \Rightarrow (m1\_subset\_1\ X0\ X2) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X0 \in k9\_xtuple\_0\ X1) \Rightarrow (k1\_funct\_1\ X1\ X0 \in k10\_xtuple\_0\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v5\_ordinal1\ X0) \wedge (v1\_funct\_1\ X0))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v5\_ordinal1\ X1) \wedge (v1\_funct\_1\ X1))) \Rightarrow (r1\_ordinal1\ (k9\_xtuple\_0\ X0)\ (k9\_xtuple\_0\ (k1\_ordinal4\ X0\ X1)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1\ X0) \wedge (v3\_ordinal1\ X1)) \Rightarrow ((r1\_ordinal1\ X0\ X1) \Leftrightarrow (r1\_tarski\ X0\ X1)) \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(k2\_afinsq\_1\ X0 = k9\_xtuple\_0\ X0) \tag{7}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(k1\_card\_1\ X0 = k9\_xtuple\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\wedge((v1\_relat\_1\ X1)\wedge((v5\_ordinal1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finset\_1\ X1)))))\Rightarrow((v1\_relat\_1\ (k1\_ordinal4\ X0\ X1))\wedge((v5\_ordinal1\ (k1\_ordinal4\ X0\ X1))\wedge((v1\_funct\_1\ (k1\_ordinal4\ X0\ X1))\wedge(v1\_finset\_1\ (k1\_ordinal4\ X0\ X1))))) \tag{9}$$

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.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(m1\_subset\_1\ (k2\_afinsq\_1\ X0)\ (k1\_zfmisc\_1\ k5\_numbers)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge(v1\_funct\_1\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v5\_ordinal1\ X1)\wedge(v1\_funct\_1\ X1))))\Rightarrow((v1\_relat\_1\ (k1\_ordinal4\ X0\ X1))\wedge((v5\_ordinal1\ (k1\_ordinal4\ X0\ X1))\wedge(v1\_funct\_1\ (k1\_ordinal4\ X0\ X1)))) \tag{12}$$

Assume the following.

$$\forall X0.v1\_card\_1\ (k1\_card\_1\ X0) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow(X2 \in X1)) \tag{14}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(X1 = k10\_xtuple\_0\ X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.(X3 \in k9\_xtuple\_0\ X0)\wedge(X2 = k1\_funct\_1\ X0\ X3)))) \tag{15}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_ordinal1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finset\_1\ X1))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v5\_ordinal1\ X2)\wedge(v1\_funct\_1\ X2)))\Rightarrow((X2 = k1\_ordinal4\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k2\_nat\_1\ (k1\_afinsq\_1\ X0)\ (k1\_afinsq\_1\ X1))\wedge((\forall X3.(v7\_ordinal1\ X3)\Rightarrow((X3 \in k2\_afinsq\_1\ X0)\Rightarrow(k1\_funct\_1\ X2\ X3 = k1\_funct\_1\ X0\ X3)))\wedge(\forall X3.(v7\_ordinal1\ X3)\Rightarrow((X3 \in k2\_afinsq\_1\ X1)\Rightarrow(k1\_funct\_1\ X2\ (k2\_nat\_1\ (k1\_afinsq\_1\ X0)\ X3) = k1\_funct\_1\ X1\ X3)))))))) \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_card\_1\ X0)\Rightarrow(v3\_ordinal1\ X0) \tag{18}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v5\_ordinal1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_finset\_1\ X0))))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v5\_ordinal1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finset\_1\ X1))))\Rightarrow(r1\_tarski\ (k10\_xtuple\_0\ X0)\ (k10\_xtuple\_0\ (k1\_ordinal4\ X0\ X1))))$$