

t13_scmfsa8a
(TMTFXWXeihG8ZfveC2ebHcohtmRc92RRfR1)

October 27, 2020

Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r4_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k6_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r3_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_scmfsa_2 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_compos_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1. \forall X2. \\ k9_xtuple_0 (k6_funct_4 X0 X1 X2) = k9_xtuple_0 X0) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow \\ (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (\neg r3_scmfsa7b \\ (k11_scmfsa_2 X1) X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ \forall X3.((X0 \in k9_xtuple_0 X1) \wedge (k1_funct_1 X1 X0 = X2)) \Rightarrow (k1_funct_1 \\ (k6_funct_4 X1 X2 X3) X0 = X3)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ \forall X3.(k1_funct_1 X1 X0 \neq X2) \Rightarrow (k1_funct_1 (k6_funct_4 X1 X2 \\ X3) X0 = k1_funct_1 X1 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (8)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge \\ &((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2))\wedge((v1_funct_1 X0)\wedge \\ &(v1_finset_1 X0))))))\wedge(m1_subset_1 X1 k5_numbers))\Rightarrow((v1_relat_1 \\ &(k1_scmfsa6a X0 X1))\wedge((v4_relat_1 (k1_scmfsa6a X0 X1) k5_numbers)\wedge \\ &((v5_relat_1 (k1_scmfsa6a X0 X1) (u1_compos_1 k1_scmfsa_2))\wedge \\ &((v1_funct_1 (k1_scmfsa6a X0 X1))\wedge(v1_finset_1 (k1_scmfsa6a \\ &X0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v5_relat_1 \\ &X0 (u1_compos_1 k1_scmfsa_2))\wedge(v1_funct_1 X0))))\Rightarrow(\forall X1. \\ &((v1_ami_2 X1)\wedge(m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))\Rightarrow \\ &((r4_scmfsa7b X0 X1)\Leftrightarrow(\exists X2.(m1_subset_1 X2 (u1_compos_1 \\ &k1_scmfsa_2))\wedge((X2 \in k10_xtuple_0 X0)\wedge(r3_scmfsa7b X2 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow(\forall X1.(X1 = k10_xtuple_0 X0)\Leftrightarrow(\forall X2.(X2 \in X1)\Leftrightarrow(\exists X3.(X3 \in k9_xtuple_0 X0)\wedge(X2 = k1_funct_1 X0 X3)))) \quad (12)$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v5_relat_1 \\ &X0 (u1_compos_1 k1_scmfsa_2))\wedge((v1_funct_1 X0)\wedge(v1_finset_1 \\ &X0))))))\Rightarrow(\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow \\ &(k1_scmfsa6a X0 X1 = k6_funct_4 X0 (k2_compos_1 k1_scmfsa_2) (k11_scmfsa_2 \\ &X1))) \end{aligned} \quad (13)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 \\ & X0)))))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow \\ & (\forall X2.((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow \\ & (\neg(\neg r4_scmfsa7b X0 X2) \wedge (r4_scmfsa7b (k1_scmfsa6a X0 X1) X2)))) \end{aligned}$$