

t9_scmbsort
(TMb8aV5E6dvFJCzfBhwk3qK7qGeAY72YJMJ)

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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 $k1_scmf_sa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_scmf_sa_2 : \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k14_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_sf_mastr : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sf_mastr : \iota \Rightarrow \iota$ be given. Let $k5_scmf_sa_m : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (r1_tarski (k2_tarski X0 X1) \\ X2) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmf_sa_2)) \Rightarrow (\forall X1. \\ ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\ (u1_compos_1 k1_scmf_sa_2)) \wedge ((v1_funct_1 X1) \wedge (v1_finset_1 X1)))))) \Rightarrow \\ ((X0 \in k2_relset_1 (u1_compos_1 k1_scmf_sa_2) X1) \Rightarrow (r1_tarski (\\ k1_sf_mastr X0) (k2_sf_mastr X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\ (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\ (\forall X2. (m1_scmf_sa_2 X2) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_compos_1 \\ k1_scmf_sa_2)) \Rightarrow (((X3 = k14_scmf_sa_2 X0 X1 X2) \vee (X3 = k15_scmf_sa_2 \\ X0 X1 X2)) \Rightarrow (k1_sf_mastr X3 = k5_scmf_sa_m X1 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 \\ k1_scmf_sa_2))) \wedge ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 \\ k1_scmf_sa_2)))) \Rightarrow (k5_scmf_sa_m X0 X1 = k2_tarski X0 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2))\wedge((v1_funct_1 X0)\wedge(v1_finset_1 \\ & X0))))\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_compos_1 k1_scmfsa_2))\Rightarrow \\ & (\forall X2.(m1_scmfsa_2 X2)\Rightarrow(\forall X3.((v1_ami_2 X3)\wedge(m1_subset_1 \\ & X3 (u1_struct_0 k1_scmfsa_2))\Rightarrow(\forall X4.((v1_ami_2 X4)\wedge \\ & m1_subset_1 X4 (u1_struct_0 k1_scmfsa_2))\Rightarrow((X1 \in k10_xtuple_0 \\ & X0)\Rightarrow(((X1 \neq k14_scmfsa_2 X3 X4 X2)\wedge(X1 \neq k15_scmfsa_2 X3 X4 X2))\vee \\ & ((X4 \in k2_sf_mastr X0)\wedge(X3 \in k2_sf_mastr X0)))))))))) \end{aligned}$$