

t3_scmbsort
(TMQ6XRaqbztXAa5f5V1u2wdoLkbRJgLyp5E)

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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 $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_scmf_sa_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_scmf_sa_2 : \iota \Rightarrow o$ be given. Let $v1_ami_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_scmf_sa_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funct_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_int_2 : \iota \Rightarrow \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $k16_complex1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmf_sa_2)) \wedge \\
& ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmf_sa_2)) \wedge \\
& (v1_partfun1 X0 (u1_struct_0 k1_scmf_sa_2)))))) \Rightarrow (\forall X1. \\
& ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\
& (\forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 X2 (u1_struct_0 k1_scmf_sa_2))) \Rightarrow \\
& (\forall X3. (m1_scmf_sa_2 X3) \Rightarrow (k18_scmf_sa_2 (k2_extpro_1 np_3 \\
& k1_scmf_sa_2 (k15_scmf_sa_2 X2 X1 X3) X0) X3 = k2_funct_7 (k18_scmf_sa_2 \\
& X0 X3) (k1_int_2 (k1_funct_1 X0 X1)) (k1_funct_1 X0 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (v1_int_1 X0) \Rightarrow (k1_int_2 X0 = k16_complex1 X0) \tag{2}$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Rightarrow (k18_complex1 X0 = k16_complex1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 \\ & k1_scmfsa_2)) \wedge ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 \\ & np_3 k1_scmfsa_2)) \wedge (v1_partfun1 X0 (u1_struct_0 k1_scmfsa_2)))))) \wedge \\ & ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2)))) \Rightarrow \\ & (v1_int_1 (k1_funct_1 X0 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \tag{5}$$

Assume the following.

$$\forall X0. (v1_int_1 X0) \Rightarrow (v1_xreal_0 X0) \tag{6}$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 (u1_struct_0 k1_scmfsa_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v5_funct_1 X0 (k2_memstr_0 np_3 k1_scmfsa_2)) \wedge \\ & (v1_partfun1 X0 (u1_struct_0 k1_scmfsa_2)))))) \Rightarrow (\forall X1. \\ & (m1_scmfsa_2 X1) \Rightarrow (\forall X2. ((v1_ami_2 X2) \wedge (m1_subset_1 X2 \\ & (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\forall X3. ((v1_ami_2 X3) \wedge (m1_subset_1 \\ & X3 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (k18_scmfsa_2 (k2_extpro_1 np_3 \\ & k1_scmfsa_2 (k15_scmfsa_2 X3 X2 X1) X0) X1 = k2_funct_7 (k18_scmfsa_2 \\ & X0 X1) (k18_complex1 (k1_funct_1 X0 X2)) (k1_funct_1 X0 X3)))))) \end{aligned}$$