

t30_scmisort

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October 27, 2020

Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmfsa_2 : \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k5_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_8 : \iota$ be given. 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_6 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\ & ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (k5_card_1 (k5_scmfsa6a \\ & X1 X0) = k2_nat_1 (k5_card_1 X1) np_2)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (k5_card_1 (k5_scmfsa6a (k6_scmfsa6a \\ & X0 X1) X2) = np_6))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_6) \wedge (m2_subset_1 np_6 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_6 k5_numbers) \wedge (m1_subset_1 np_6 k1_numbers)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \tag{4}$$

Assume the following.

$$k2_xcmplx_0 \ np_6 \ np_2 = np_8 \quad (5)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 \ X0 \ k5_numbers)\wedge(v7_ordinal1 \ X1))\Rightarrow(k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 \ X0 \ (u1_compos_1 \ k1_scmfsa_2))\wedge \\ & (m1_subset_1 \ X1 \ (u1_compos_1 \ k1_scmfsa_2)))\Rightarrow((v1_relat_1 \ (k6_scmfsa6a \\ & \ X0 \ X1))\wedge((v4_relat_1 \ (k6_scmfsa6a \ X0 \ X1) \ k5_numbers)\wedge((v5_relat_1 \\ & \ (k6_scmfsa6a \ X0 \ X1) \ (u1_compos_1 \ k1_scmfsa_2))\wedge((\neg v1_xboole_0 \\ & \ (k6_scmfsa6a \ X0 \ X1))\wedge((v1_funct_1 \ (k6_scmfsa6a \ X0 \ X1))\wedge((v1_finset_1 \\ & \ (k6_scmfsa6a \ X0 \ X1))\wedge(v1_afinsq_1 \ (k6_scmfsa6a \ X0 \ X1)))))))) \quad (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_relat_1 \ X0)\wedge((v4_relat_1 \ X0 \ k5_numbers)\wedge \\ & ((v5_relat_1 \ X0 \ (u1_compos_1 \ k1_scmfsa_2))\wedge((\neg v1_xboole_0 \ X0)\wedge \\ & ((v1_funct_1 \ X0)\wedge((v1_finset_1 \ X0)\wedge(v1_afinsq_1 \ X0)))))))\wedge \\ & (m1_subset_1 \ X1 \ (u1_compos_1 \ k1_scmfsa_2)))\Rightarrow((v1_relat_1 \ (k5_scmfsa6a \\ & \ X0 \ X1))\wedge((v4_relat_1 \ (k5_scmfsa6a \ X0 \ X1) \ k5_numbers)\wedge((v5_relat_1 \\ & \ (k5_scmfsa6a \ X0 \ X1) \ (u1_compos_1 \ k1_scmfsa_2))\wedge((\neg v1_xboole_0 \\ & \ (k5_scmfsa6a \ X0 \ X1))\wedge((v1_funct_1 \ (k5_scmfsa6a \ X0 \ X1))\wedge((v1_finset_1 \\ & \ (k5_scmfsa6a \ X0 \ X1))\wedge(v1_afinsq_1 \ (k5_scmfsa6a \ X0 \ X1)))))))) \quad (9) \end{aligned}$$

Assume the following.

$$\forall X0.(m1_subset_1 \ X0 \ k4_ordinal1)\Rightarrow(v7_ordinal1 \ X0) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 \ X0 \ (u1_compos_1 \ k1_scmfsa_2))\Rightarrow(\forall X1. \\ & (m1_subset_1 \ X1 \ (u1_compos_1 \ k1_scmfsa_2))\Rightarrow(\forall X2.(m1_subset_1 \\ & \ X2 \ (u1_compos_1 \ k1_scmfsa_2))\Rightarrow(\forall X3.(m1_subset_1 \ X3 \ (u1_compos_1 \\ & \ k1_scmfsa_2))\Rightarrow(k5_card_1 \ (k5_scmfsa6a \ (k5_scmfsa6a \ (k6_scmfsa6a \\ & \ X0 \ X1) \ X2) \ X3) = np_8)))) \end{aligned}$$