

t115_scmpds_6
(TMMw1st9amyT6xsqAegKBXC97sijYjCSrJD)

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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 $k1_scmpds_2 : \iota$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $u1_compos_1 : \iota \Rightarrow \iota$ 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 $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k10_scmpds_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ 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. Let $k1_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_scmpds_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_scmpds_2 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$k2_xcmplx_0 \ np_1 \ np_1 = np_2 \quad (2)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 \ X0 \ k5_numbers) \wedge (v7_ordinal1 \ X1)) \Rightarrow (k2_nat_1 \ X0 \ X1 = k2_xcmplx_0 \ X0 \ X1) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 \ X0 \ (u1_compos_1 \ k1_scmpds_2)) \Rightarrow (\forall X1. \\ & (m1_subset_1 \ X1 \ (u1_compos_1 \ k1_scmpds_2)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 \\ & \ X2) \wedge ((v1_relat_1 \ X2) \wedge ((v4_relat_1 \ X2 \ k5_numbers) \wedge ((v5_relat_1 \\ & \ X2 \ (u1_compos_1 \ k1_scmpds_2)) \wedge ((v1_funct_1 \ X2) \wedge ((v1_finset_1 \\ & \ X2) \wedge (v1_afinsq_1 \ X2)))))) \Rightarrow (k5_card_1 \ (k1_scmpds_4 \ (k4_scmpds_4 \\ & \ X0 \ X1) \ X2) = k2_nat_1 \ (k5_card_1 \ X2) \ np_2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_int_1 X0)\wedge(v1_int_1 X1))\Rightarrow(v1_int_1 (k2_xcmplx_0 X0 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 k1_scmpds_2)))\wedge((v1_int_1 X1)\wedge(v1_int_1 X2)))\Rightarrow (m1_subset_1 (k9_scmpds_2 X0 X1 X2) (u1_compos_1 k1_scmpds_2)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(m1_subset_1 (k5_card_1 X0) k4_ordinal1) \quad (8)$$

Assume the following.

$$\forall X0.(v1_int_1 X0)\Rightarrow(m1_subset_1 (k3_scmpds_2 X0) (u1_compos_1 k1_scmpds_2)) \quad (9)$$

Assume the following.

$$\forall X0.((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 k1_scmpds_2)))\Rightarrow ((\forall X1.(v1_int_1 X1)\Rightarrow(\forall X2.((\neg v1_xboole_0 X2)\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 k5_numbers)\wedge((v5_relat_1 X2 (u1_compos_1 k1_scmpds_2))\wedge((v1_funct_1 X2)\wedge((v1_finset_1 X2)\wedge(v1_afinsq_1 X2))))))))))\Rightarrow(k10_scmpds_6 X0 X1 X2 = k1_scmpds_4 (k4_scmpds_4 (k9_scmpds_2 X0 X1 np_2) (k3_scmpds_2 (k2_nat_1 (k5_card_1 X2) np_1))) X2))) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_int_1 X0) \quad (12)$$

Theorem 1

$$\forall X0.((v1_ami_2 X0)\wedge(m1_subset_1 X0 (u1_struct_0 k1_scmpds_2)))\Rightarrow ((\forall X1.(v1_int_1 X1)\Rightarrow(\forall X2.((\neg v1_xboole_0 X2)\wedge((v1_relat_1 X2)\wedge((v4_relat_1 X2 k5_numbers)\wedge((v5_relat_1 X2 (u1_compos_1 k1_scmpds_2))\wedge((v1_funct_1 X2)\wedge((v1_finset_1 X2)\wedge(v1_afinsq_1 X2))))))))))\Rightarrow(k5_card_1 (k10_scmpds_6 X0 X1 X2) = k2_nat_1 (k5_card_1 X2) np_2)))$$