

t33_scmfsa6a
(TMN4cW6d8KcamVhWvGG5q2jDG6E68dbVHST)

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 $v1_relat_1 : \iota \Rightarrow o$ 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 $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k4_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k11_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k4_ordinal1 : \iota$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_compos_1 X0)) \Rightarrow (k5_card_1 (k11_compos_1 X0 X1) = np_2)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\ & X0 (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X0) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\forall X1.(\\ & (v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v5_relat_1 X1 \\ & (u1_compos_1 k1_scmfsa_2)) \wedge ((\neg v1_xboole_0 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (k5_card_1 (k3_scmfsa6a \\ & X0 X1) = k2_nat_1 (k5_card_1 X0) (k5_card_1 X1))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \quad (3) \end{aligned}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((l1_compos_1 X0)\wedge(m1_subset_1 X1 (u1_compos_1 X0)))\Rightarrow((\neg v1_xboole_0 (k11_compos_1 X0 X1))\wedge((v1_relat_1 (k11_compos_1 X0 X1))\wedge((v4_relat_1 (k11_compos_1 X0 X1) k5_numbers)\wedge((v5_relat_1 (k11_compos_1 X0 X1) (u1_compos_1 X0))\wedge((v1_funct_1 (k11_compos_1 X0 X1))\wedge((v1_finset_1 (k11_compos_1 X0 X1))\wedge(v1_afinsq_1 (k11_compos_1 X0 X1)))))))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(l1_extpro_1 X1 X0)\Rightarrow((l1_memstr_0 X1 X0)\wedge(l1_compos_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(m1_subset_1 (k5_card_1 X0) k4_ordinal1) \quad (7)$$

Assume the following.

$$(v1_extpro_1 k1_scmfsa_2 np_3)\wedge(l1_extpro_1 k1_scmfsa_2 np_3) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((l1_compos_1 X0)\wedge(m1_subset_1 X1 (u1_compos_1 X0)))\Rightarrow((v1_relat_1 (k11_compos_1 X0 X1))\wedge((v4_relat_1 (k11_compos_1 X0 X1) k5_numbers)\wedge((v5_relat_1 (k11_compos_1 X0 X1) (u1_compos_1 X0))\wedge((v1_funct_1 (k11_compos_1 X0 X1))\wedge(v1_finset_1 (k11_compos_1 X0 X1)))))))) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2))\wedge((\neg v1_xboole_0 X1)\wedge((v1_funct_1 X1)\wedge((v1_finset_1 X1)\wedge(v1_afinsq_1 X1))))))))\Rightarrow(k4_scmfsa6a X0 X1 = k3_scmfsa6a (k11_compos_1 k1_scmfsa_2 X0) X1)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k5_numbers)\wedge(v7_ordinal1 X1))\Rightarrow(k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (12)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v5_relat_1 X1 (u1_compos_1 k1_scmfsa_2))\wedge((\neg v1_xboole_0 X1)\wedge((v1_funct_1 X1)\wedge((v1_finset_1 X1)\wedge(v1_afinsq_1 X1))))))))\Rightarrow(k5_card_1 (k4_scmfsa6a X0 X1) = k2_nat_1 (k5_card_1 X1) np_2))$$