

t48_scmfsa8c
(TMLFa52aHJ2UxHZG4ZXsT1YvLyUSfcW6RhJ)

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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 $v1_ami_2 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k11_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_compos_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_compos_0 : \iota \Rightarrow o$ be given. Let $v2_compos_0 : \iota \Rightarrow o$ be given. Let $v3_compos_0 : \iota \Rightarrow o$ be given. Let $v5_compos_0 : \iota \Rightarrow o$ 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 $k6_compos_0 : \iota \Rightarrow \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_3 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_compos_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_compos_1 \\ X0)) \Rightarrow (k10_xtuple_0 (k11_compos_1 X0 X1) = k7_domain_1 (u1_compos_1 \\ X0) X1 (k2_compos_1 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\neg r3_scmfsa7b (k2_compos_1 k1_scmfsa_2) X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 \\ X1 X0) \wedge (m1_subset_1 X2 X0))) \Rightarrow (k7_domain_1 X0 X1 X2 = k2_tarski X1 \\ X2) \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow ((v1_compos_0 (u1_compos_1 X0)) \wedge ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 X0)) \wedge (v5_compos_0 (u1_compos_1 X0)))))) \quad (5)$$

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.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (m1_subset_1 (k6_compos_0 X0) X0) \quad (7)$$

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.

$$\forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmfsa_2)) \wedge (v1_funct_1 X0)))) \Rightarrow (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow ((r4_scmfsa7b X0 X1) \Leftrightarrow (\exists X2.(m1_subset_1 X2 (u1_compos_1 k1_scmfsa_2)) \wedge ((X2 \in k10_xtuple_0 X0) \wedge (r3_scmfsa7b X2 X1)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2_tarski X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \quad (11)$$

Assume the following.

$$\forall X0.(l1_compos_1 X0) \Rightarrow (k2_compos_1 X0 = k6_compos_0 (u1_compos_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (13)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmfsa_2)) \Rightarrow (\forall X1. ((v1_ami_2 X1) \wedge (m1_subset_1 X1 (u1_struct_0 k1_scmfsa_2))) \Rightarrow (\neg (\neg r3_scmfsa7b X0 X1) \wedge (r4_scmfsa7b (k11_compos_1 k1_scmfsa_2 X0) X1)))$$