

t15_scmpds_4
(TMcJ4r9KK7qUjMrCby5ZUd8ULchCAe1KbuD)

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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 $k1_scmpds_2 : \iota$ 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 $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $k3_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmpds_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $k9_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_afinsq_1 : \iota \Rightarrow \iota$ be given. Let $v5_ordinal1 : \iota \Rightarrow o$ 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 $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge \\ & ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1))))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 \\ & X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 \\ & X2 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 \\ & X2) \wedge (v1_afinsq_1 X2))))))) \Rightarrow (k3_scmpds_4 (k1_scmpds_4 X1 X2) \\ & X0 = k1_scmpds_4 X1 (k3_scmpds_4 X2 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. ((l1_compos_1 X0) \wedge (m1_subset_1 X1 (u1_compos_1 X0))) \Rightarrow (k9_compos_1 X0 X1 = k3_afinsq_1 X1) \quad (2)$$

Assume the following.

$$\forall X0. (v5_ordinal1 (k3_afinsq_1 X0)) \wedge (v1_finset_1 (k3_afinsq_1 X0)) \quad (3)$$

Assume the following.

$$\forall X0. (v1_relat_1 (k3_afinsq_1 X0)) \wedge (v1_funct_1 (k3_afinsq_1 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 (k3_afinsq_1 X0) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (v5_relat_1 (k3_afinsq_1 X1) X0) \quad (6)$$

Assume the following.

$$\forall X0. (l1_compos_1 X0) \Rightarrow ((v1_compos_0 (u1_compos_1 X0)) \wedge ((v2_compos_0 (u1_compos_1 X0)) \wedge ((v3_compos_0 (u1_compos_1 X0)) \wedge (v5_compos_0 (u1_compos_1 X0)))))) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge \\ & ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \wedge \\ & (m1_subset_1 X1 (u1_compos_1 k1_scmpds_2))) \Rightarrow ((\neg v1_xboole_0 \\ & (k3_scmpds_4 X0 X1)) \wedge ((v1_relat_1 (k3_scmpds_4 X0 X1)) \wedge ((v4_relat_1 \\ & (k3_scmpds_4 X0 X1) k5_numbers) \wedge ((v5_relat_1 (k3_scmpds_4 X0 \\ & X1) (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 (k3_scmpds_4 X0 \\ & X1)) \wedge ((v1_finset_1 (k3_scmpds_4 X0 X1)) \wedge (v1_afinsq_1 (k3_scmpds_4 \\ & X0 X1)))))))))) \end{aligned} \quad (9)$$

Assume the following.

$$(v1_extpro_1 k1_scmpds_2 np_2) \wedge (l1_extpro_1 k1_scmpds_2 np_2) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\ & ((\neg v1_xboole_0 X1) \wedge ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge \\ & ((v5_relat_1 X1 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge \\ & ((v1_finset_1 X1) \wedge (v1_afinsq_1 X1)))))) \Rightarrow (k2_scmpds_4 X0 X1 = \\ & k1_scmpds_4 (k9_compos_1 k1_scmpds_2 X0) X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 \\ & X0) \wedge (v1_finset_1 X0)))) \Rightarrow ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ & ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0)))) \Rightarrow ((v1_relat_1 X0) \wedge ((v5_ordinal1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0))))) \quad (13)$$

Assume the following.

$$\forall X0.(v5_compos_0 X0) \Rightarrow (\neg v1_xboole_0 X0) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_compos_1 k1_scmpds_2)) \Rightarrow (\forall X2. ((\neg v1_xboole_0 \\ & X2) \wedge ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 \\ & X2 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 \\ & X2) \wedge (v1_afinsq_1 X2))))))) \Rightarrow (k3_scmpds_4 (k2_scmpds_4 X0 X2) \\ & X1 = k2_scmpds_4 X0 (k3_scmpds_4 X2 X1)))) \end{aligned}$$