

t15_scmpds_5
(TMPE2aN6vqJnbVLPYsk2oC5osRv85q13QKa)

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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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v5_funct_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $v2_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v5_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Assume the following.

$$m1_subset_1 \ k1_xboole_0 \ k4_ordinal1 \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_ami_2 \ X0) \wedge (m1_subset_1 \ X0 \ (u1_struct_0 \ k1_scmpds_2))) \Rightarrow \\ & (\forall X1.(m1_subset_1 \ X1 \ k5_numbers) \Rightarrow (\neg X0 \in k9_xtuple_0 \ (k7_memstr_0 \\ & \quad np_2 \ k1_scmpds_2 \ X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 \ X1) \wedge (v1_funct_1 \ X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 \ X2) \wedge (v1_funct_1 \ X2)) \Rightarrow ((\neg X0 \in k9_xtuple_0 \ X1) \Rightarrow (k1_funct_1 \\ & \quad (k1_funct_4 \ X2 \ X1) \ X0 = k1_funct_1 \ X2 \ X0))) \end{aligned} \tag{3}$$

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.

$$\neg v1_xboole_0 \text{ np_2} \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$(v2_memstr_0 \text{ k1_scmpds_2 np_2}) \wedge ((v3_memstr_0 \text{ k1_scmpds_2 np_2}) \wedge (v1_extpro_1 \text{ k1_scmpds_2 np_2})) \quad (8)$$

Assume the following.

$$(\neg v2_struct_0 \text{ k1_scmpds_2}) \wedge (v1_extpro_1 \text{ k1_scmpds_2 np_2}) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 X0) \wedge (((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \wedge (v7_ordinal1 X2))) \Rightarrow ((\neg v1_xboole_0 (k7_memstr_0 X0 X1 X2)) \wedge ((v1_relat_1 (k7_memstr_0 X0 X1 X2)) \wedge ((v4_relat_1 (k7_memstr_0 X0 X1 X2) (u1_struct_0 X1)) \wedge ((v1_funct_1 (k7_memstr_0 X0 X1 X2)) \wedge ((v5_funct_1 (k7_memstr_0 X0 X1 X2) (k2_memstr_0 X0 X1)) \wedge (v5_memstr_0 (k7_memstr_0 X0 X1 X2) X0 X1 X2)))))) \quad (10) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. (l1_extpro_1 X1 X0) \Rightarrow ((l1_memstr_0 X1 X0) \wedge (l1_compos_1 X1)) \quad (11)$$

Assume the following.

$$(v1_extpro_1 \text{ k1_scmpds_2 np_2}) \wedge (l1_extpro_1 \text{ k1_scmpds_2 np_2}) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_setfam_1 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v2_memstr_0 X1 X0) \wedge ((v3_memstr_0 X1 X0) \wedge (l1_memstr_0 X1 X0)))) \Rightarrow ((\forall X2. ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 (u1_struct_0 X1)) \wedge ((v1_funct_1 X2) \wedge (v5_funct_1 X2 (k2_memstr_0 X0 X1)))))) \Rightarrow (k8_memstr_0 X0 X1 X2 = k1_funct_4 X2 (k7_memstr_0 X0 X1 k6_numbers)))) \quad (13) \end{aligned}$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (14)$$

Assume the following.

$$\forall X0. ((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (\neg v1_setfam_1 X0))) \quad (15)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_ami_2 X0) \wedge (m1_subset_1 X0 (u1_struct_0 k1_scmpds_2))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge (v4_relat_1 X1 (u1_struct_0 k1_scmpds_2)) \wedge \\ & ((v1_funct_1 X1) \wedge (v5_funct_1 X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\ & (v1_partfun1 X1 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (k1_funct_1 \\ & (k8_memstr_0 np_2 k1_scmpds_2 X1) X0 = k1_funct_1 X1 X0) \end{aligned}$$