

t126_scmpds_6
(TMcf3GDMJur3jqYqBHstXMtdf8g8CQUqN5v)

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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 $k1_scmpds_2 : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_afinsq_1 : \iota \Rightarrow o$ be given. Let $r2_scmpds_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $l1_memstr_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_compos_1 : \iota \Rightarrow o$ be given. Let $r1_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_compos_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$\neg v1_xboole_0 \ np_2 \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1 \ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0 \ X1 \ X0) \wedge ((v3_memstr_0 \ X1 \ X0) \wedge (l1_memstr_0 \ X1 \\ & X0)))) \wedge ((v1_relat_1 \ X2) \wedge ((v4_relat_1 \ X2 \ (u1_struct_0 \ X1)) \wedge \\ & (v1_funct_1 \ X2) \wedge (v5_funct_1 \ X2 \ (k2_memstr_0 \ X0 \ X1)))))) \Rightarrow (k8_memstr_0 \\ & X0 \ X1 \ (k8_memstr_0 \ X0 \ X1 \ X2) = k8_memstr_0 \ X0 \ X1 \ X2) \end{aligned} \quad (4)$$

Assume the following.

$$(v2_memstr_0\ k1_scmpds_2\ np_2) \wedge ((v3_memstr_0\ k1_scmpds_2\ np_2) \wedge (v1_extpro_1\ k1_scmpds_2\ np_2)) \quad (5)$$

Assume the following.

$$(\neg v2_struct_0\ k1_scmpds_2) \wedge (v1_extpro_1\ k1_scmpds_2\ np_2) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1\ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0\ X1\ X0) \wedge ((v3_memstr_0\ X1\ X0) \wedge (l1_memstr_0\ X1 \\ & X0)))) \wedge ((v1_relat_1\ X2) \wedge ((v4_relat_1\ X2\ (u1_struct_0\ X1)) \wedge \\ & (v1_funct_1\ X2) \wedge ((v5_funct_1\ X2\ (k2_memstr_0\ X0\ X1)) \wedge (v1_partfun1 \\ & X2\ (u1_struct_0\ X1)))))) \Rightarrow ((v1_relat_1\ (k8_memstr_0\ X0\ X1\ X2)) \wedge \\ & ((v4_relat_1\ (k8_memstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X1)) \wedge ((v1_funct_1 \\ & (k8_memstr_0\ X0\ X1\ X2)) \wedge ((v5_funct_1\ (k8_memstr_0\ X0\ X1\ X2)\ (k2_memstr_0 \\ & X0\ X1)) \wedge (v1_partfun1\ (k8_memstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X1)))))) \end{aligned} \quad (7)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((\neg v1_setfam_1\ X0) \wedge (((\neg v2_struct_0 \\ & X1) \wedge ((v2_memstr_0\ X1\ X0) \wedge ((v3_memstr_0\ X1\ X0) \wedge (l1_memstr_0\ X1 \\ & X0)))) \wedge ((v1_relat_1\ X2) \wedge ((v4_relat_1\ X2\ (u1_struct_0\ X1)) \wedge \\ & (v1_funct_1\ X2) \wedge ((v5_funct_1\ X2\ (k2_memstr_0\ X0\ X1)))))) \Rightarrow ((v1_relat_1 \\ & (k8_memstr_0\ X0\ X1\ X2)) \wedge ((v4_relat_1\ (k8_memstr_0\ X0\ X1\ X2)\ (u1_struct_0 \\ & X1)) \wedge ((v1_funct_1\ (k8_memstr_0\ X0\ X1\ X2)) \wedge ((v5_funct_1\ (k8_memstr_0 \\ & X0\ X1\ X2)\ (k2_memstr_0\ X0\ X1)))))) \end{aligned} \quad (9)$$

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.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v4_relat_1 \\
& X0 k5_numbers) \wedge ((v5_relat_1 X0 (u1_compos_1 k1_scmpds_2)) \wedge \\
& (v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_afinsq_1 X0)))))) \Rightarrow (\\
& \forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 X1 (u1_struct_0 k1_scmpds_2)) \wedge \\
& ((v1_funct_1 X1) \wedge ((v5_funct_1 X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge \\
& (v1_partfun1 X1 (u1_struct_0 k1_scmpds_2)))))) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 \\
& (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge (v1_partfun1 X2 \\
& k5_numbers)))))) \Rightarrow ((r2_scmpds_6 X0 X1 X2) \Leftrightarrow (r1_extpro_1 np_2 k1_scmpds_2 \\
& (k1_funct_4 X2 (k10_compos_1 k1_scmpds_2 X0)) (k8_memstr_0 np_2 \\
& k1_scmpds_2 X1))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \tag{12}$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X0) \wedge (\neg v1_setfam_1 X0))) \tag{13}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v5_relat_1 \\
& X0 (u1_compos_1 k1_scmpds_2)) \wedge ((v1_funct_1 X0) \wedge (v1_partfun1 \\
& X0 k5_numbers)))))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v4_relat_1 \\
& X1 (u1_struct_0 k1_scmpds_2)) \wedge ((v1_funct_1 X1) \wedge ((v5_funct_1 \\
& X1 (k2_memstr_0 np_2 k1_scmpds_2)) \wedge (v1_partfun1 X1 (u1_struct_0 \\
& k1_scmpds_2)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 \\
& X2) \wedge ((v4_relat_1 X2 k5_numbers) \wedge ((v5_relat_1 X2 (u1_compos_1 \\
& k1_scmpds_2)) \wedge ((v1_funct_1 X2) \wedge ((v1_finset_1 X2) \wedge (v1_afinsq_1 \\
& X2)))))) \Rightarrow ((r2_scmpds_6 X2 X1 X0) \Leftrightarrow (r2_scmpds_6 X2 (k8_memstr_0 \\
& np_2 k1_scmpds_2 X1) X0)))
\end{aligned}$$