

t39_scmring3
(TMFXiw6cfc3qka2T9LZ1GNsGzB85Gekfy9m)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_compos_1 : \iota \Rightarrow \iota$ be given. Let $k1_scmring2 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_compos_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_7 : \iota$ be given. Let $k1_scmringi : \iota \Rightarrow \iota$ be given. Let $v1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_2 : \iota$ be given. Let $l1_extpro_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_ami_2 : \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_ami_2 : \iota$ be given. Let $u2_memstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_scmring1 : \iota \Rightarrow \iota$ be given. Let $u1_extpro_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_scmring1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \quad (1) \\ & (\forall X1. (m1_subset_1 X1 (k1_scmringi X0)) \Rightarrow (r1_xxreal_0 (\\ & k2_compos_0 (k1_scmringi X0) X1) np_7)) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge (\\ & (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \quad (2) \\ & ((v1_extpro_1 (k1_scmring2 X0) np_2) \wedge (l1_extpro_1 (k1_scmring2 \\ & X0) np_2)) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1.((v1_extpro_1 X1 \text{ np_}2) \wedge (l1_extpro_1 X1 \text{ np_}2)) \Rightarrow \\
& ((X1 = k1_scmring2 X0) \Leftrightarrow ((u1_struct_0 X1 = k1_ami_2) \wedge ((u2_struct_0 \\
& X1 = k5_numbers) \wedge ((u1_compos_1 X1 = k1_scmringi X0) \wedge ((r1_funct_2 \\
& (u1_struct_0 X1) \text{ np_}2 \text{ k1_ami_2 np_}2 (u1_memstr_0 \text{ np_}2 X1) \text{ k3_ami_2}) \wedge \\
& ((u2_memstr_0 \text{ np_}2 X1 = k1_scmring1 X0) \wedge (u1_extpro_1 \text{ np_}2 X1 = \\
& k8_scmring1 X0))))))))))
\end{aligned} \tag{3}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge \\
& (v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_compos_1 (k1_scmring2 X0))) \Rightarrow \\
& (r1_xxreal_0 (k2_compos_0 (u1_compos_1 (k1_scmring2 X0)) X1) \\
& \text{ np_}7))
\end{aligned}$$