

t21_grnilp_1
(TMYGnrB4uYPsKjuksir7U8bdg2fQgDiy8AC)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_grnilp_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_grnilp_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_group_2 : \iota \Rightarrow \iota$ be given. Let $k6_group_2 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_3 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_grnilp_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_group_6 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_group_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_group_5 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\
& ((v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0)) \Rightarrow (((v15_algstr_0 X2) \wedge \\
& (m1_group_6 X2 X0 X1)) \wedge ((v15_algstr_0 (k1_grnilp_1 X0 X1 (k7_group_2 \\
& X0))) \wedge (m1_group_6 (k1_grnilp_1 X0 X1 (k7_group_2 X0)) X0 X2))) \Rightarrow \\
& (m1_group_6 (k5_group_6 X1 (k1_group_6 X0 X1 X2)) (k5_group_6 X0 \\
& X2) (k10_group_5 (k5_group_6 X0 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\
& X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\
& ((v15_algstr_0 X2) \wedge ((v1_group_3 X2 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow \\
& (((m1_group_6 X2 X0 X1) \wedge (m1_group_6 (k5_group_6 X1 (k1_group_6 \\
& X0 X1 X2)) (k5_group_6 X0 X2) (k10_group_5 (k5_group_6 X0 X2)))) \Rightarrow \\
& (m1_group_6 (k1_grnilp_1 X0 X1 (k7_group_2 X0)) X0 X2)))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow ((v15_algstr_0 (k7_group_2 X0)) \wedge (m1_group_2 (k7_group_2 X0) X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow ((v15_algstr_0 (k1_grnilp_1 X0 X1 X2)) \wedge (m1_group_2 (k1_grnilp_1 X0 X1 X2) X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow ((v1_grnilp_1 X0) \Leftrightarrow (\exists X1. (m2_finseq_1 X1 (k2_grnilp_1 X0)) \wedge ((\neg r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \wedge ((k1_funct_1 X1 np_1 = k7_group_2 X0) \wedge ((k1_funct_1 X1 (k3_finseq_1 X1) = k6_group_2 X0) \wedge (\forall X2. (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (((X2 \in k4_finseq_1 X1) \wedge (k2_xcmplx_0 X2 np_1 \in k4_finseq_1 X1)) \Rightarrow (\forall X3. ((v15_algstr_0 X3) \wedge ((v1_group_3 X3 X0) \wedge (m1_group_2 X3 X0))) \Rightarrow (\forall X4. ((v15_algstr_0 X4) \wedge ((v1_group_3 X4 X0) \wedge (m1_group_2 X4 X0))) \Rightarrow (((X3 = k1_funct_1 X1 X2) \wedge (X4 = k1_funct_1 X1 (k2_xcmplx_0 X2 np_1))) \Rightarrow ((m1_group_6 X4 X0 X3) \wedge (m1_group_6 (k5_group_6 X3 (k1_group_6 X0 X3 X4)) (k5_group_6 X0 X4) (k10_group_5 (k5_group_6 X0 X4)))))))))))))) \quad (5) \end{aligned}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \wedge ((m1_group_2 X1 X0) \wedge (m1_group_2 X2 X0))) \Rightarrow (k1_grnilp_1 X0 X1 X2 = k1_grnilp_1 X0 X2 X1) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 X0) \wedge (l3_algstr_0 X0)))) \Rightarrow ((v1_grnilp_1 X0) \Leftrightarrow (\exists X1. (m2_finseq_1 X1 (k2_grnilp_1 X0)) \wedge ((\neg r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \wedge ((k1_funct_1 X1 np_1 = k7_group_2 X0) \wedge ((k1_funct_1 X1 (k3_finseq_1 X1) = k6_group_2 X0) \wedge (\forall X2. (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (((X2 \in k4_finseq_1 X1) \wedge (k2_xcmplx_0 X2 np_1 \in k4_finseq_1 X1)) \Rightarrow (\forall X3. ((v15_algstr_0 X3) \wedge ((v1_group_3 X3 X0) \wedge (m1_group_2 X3 X0))) \Rightarrow (\forall X4. ((v15_algstr_0 X4) \wedge ((v1_group_3 X4 X0) \wedge (m1_group_2 X4 X0))) \Rightarrow (((X3 = k1_funct_1 X1 X2) \wedge (X4 = k1_funct_1 X1 (k2_xcmplx_0 X2 np_1))) \Rightarrow ((m1_group_6 X4 X0 X3) \wedge (m1_group_6 (k1_grnilp_1 X0 X3 (k7_group_2 X0) X0 X4)))))))))))))) \quad (7) \end{aligned}$$