

t13_grnilp_1

(TMPp1Jbb7YWtNhVjuznPaYuzaqKDCUJiofz)

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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 $m1_group_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k7_group_2 : \iota \Rightarrow \iota$ be given. Let $k10_group_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow (\forall X3.(m1_group_2 X3 X0) \Rightarrow (((m1_group_2 \\ & X1 X2) \wedge (m1_group_2 X1 X3)) \Rightarrow (m1_group_2 X1 (k10_group_2 X0 X2 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow ((m1_group_2 (k10_group_2 X0 X1 X2) X1) \wedge (m1_group_2 \\ & (k10_group_2 X0 X1 X2) X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow (\forall X3.(m1_group_2 X3 X0) \Rightarrow (\forall X4. \\ & (m1_group_2 X4 X0) \Rightarrow (((m1_group_2 X1 X2) \wedge (m1_group_2 X3 X4)) \Rightarrow (\\ & m1_group_2 (k8_group_5 X0 X1 X3) (k8_group_5 X0 X2 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)))) \Rightarrow (\forall X1.(m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow ((m1_group_6 X1 X0 X2) \Rightarrow (m1_group_6 (k1_grnilp_1 \\ & X0 X2 X1) X0 X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge \\ (v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge(m1_group_2 X1 X0))\Rightarrow(\forall X2. \quad (5) \\ (m1_group_6 X2 X0 X1)\Leftrightarrow(m1_group_2 X2 X1)) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_group_2 X1 X0)\wedge \\ (m1_group_2 X2 X0)))\Rightarrow(k1_grnilp_1 X0 X1 X2 = k8_group_5 X0 X1 X2) \quad (6) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow(m1_group_6 \\ X1 X0 (k7_group_2 X0))) \quad (7) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge \\ (v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge(m1_group_2 X1 X0))\Rightarrow(\forall X2. \quad (8) \\ (m1_group_6 X2 X0 X1)\Rightarrow(m1_group_2 X2 X0)) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge(l3_algstr_0 \\ X0)))\Rightarrow(\forall X1.(m1_group_2 X1 X0)\Rightarrow((\neg v2_struct_0 X1)\wedge((v2_group_1 \\ X1)\wedge(l3_algstr_0 X1)))) \quad (9) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v2_group_1 X0)\wedge((v3_group_1 \\ X0)\wedge(l3_algstr_0 X0))))\Rightarrow((v15_algstr_0 (k7_group_2 X0))\wedge(m1_group_2 \\ (k7_group_2 X0) X0)) \quad (10) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_group_2 X1 X0)\wedge \\ (m1_group_2 X2 X0)))\Rightarrow((v15_algstr_0 (k10_group_2 X0 X1 X2))\wedge(\\ m1_group_2 (k10_group_2 X0 X1 X2) X0)) \quad (11) \end{aligned}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v2_group_1 \\ X0)\wedge((v3_group_1 X0)\wedge(l3_algstr_0 X0))))\wedge((m1_group_2 X1 X0)\wedge \\ (m1_group_2 X2 X0)))\Rightarrow(k1_grnilp_1 X0 X1 X2 = k1_grnilp_1 X0 X2 X1) \quad (12) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v2_group_1 \\ & X0) \wedge (v3_group_1 X0) \wedge (l3_algstr_0 X0))) \wedge ((m1_group_2 X1 X0) \wedge \\ & (m1_group_2 X2 X0)) \Rightarrow (k10_group_2 X0 X1 X2 = k10_group_2 X0 X2 X1) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_group_1 X0) \wedge (v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (v3_group_1 \\ & X1)) \end{aligned} \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_group_1 X0) \wedge (v3_group_1 \\ & X0) \wedge (l3_algstr_0 X0)) \Rightarrow (\forall X1. (m1_group_2 X1 X0) \Rightarrow (\forall X2. \\ & (m1_group_2 X2 X0) \Rightarrow (\forall X3. (m1_group_2 X3 X0) \Rightarrow ((m1_group_6 \\ & (k1_grnilp_1 X0 X1 (k7_group_2 X0)) X0 X2) \Rightarrow (m1_group_6 (k1_grnilp_1 \\ & X0 (k10_group_2 X0 X1 X3) X3) X0 (k10_group_2 X0 X2 X3)))))) \end{aligned}$$