

t35_graph_5
(TMF J9CJbBsp5BuVt3etCzW6LXqjgoh2jRJv)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v7_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $r3_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_graph_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_graph_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $u2_graph_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r3_graph_5 X0 X1 X2 X3) \Leftrightarrow ((v1_graph_4 X1 X0) \wedge (r1_graph_5 \\ & X0 X1 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow ((r1_graph_5 X0 X1 X2 X3) \Leftrightarrow ((X1 \neq k1_xboole_0) \wedge ((k1_funct_1 \\ & (u1_graph_1 X0) (k1_funct_1 X1 np_1) = X2) \wedge (k1_funct_1 (u2_graph_1 \\ & X0) (k1_funct_1 X1 (k3_finseq_1 X1)) = X3)))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3.((v7_graph_1 X3 X0) \wedge (m2_graph_1 \\ & X3 X0)) \Rightarrow (\neg (X3 = k1_xboole_0) \wedge (r3_graph_5 X0 X3 X1 X2)))) \end{aligned}$$