

t56_graph_5 (TMYxdqxJos- sAF5PudMAVzMq1UdpXJqE5TPG)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ 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 $k6_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_graph_5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v1_graph_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ 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.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge (l1_graph_1 X1)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (u4_struct_0 X1)) \Rightarrow (\forall X3.(m2_finseq_1 X3 (u4_struct_0 X1)) \Rightarrow (((v2_funct_1 X2) \wedge ((r1_tarski (k10_xtuple_0 X2) (k10_xtuple_0 X3)) \wedge (r5_graph_5 X1 X0))) \Rightarrow (r1_xxreal_0 (k10_graph_5 X1 X2 X0) (k10_graph_5 X1 X3 X0))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1.((v7_graph_1 X1 X0) \wedge ((v1_graph_4 X1 X0) \wedge (m2_graph_1 X1 X0))) \Rightarrow (v2_funct_1 X1)) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1.(m2_graph_1 X1 X0) \Rightarrow (m2_finseq_1 X1 (u4_struct_0 X0))) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\
& ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow (k6_graph_5 X0 X1 = ReplSep \\
& (toiset (\lambda X2 : \iota. (v7_graph_1 X2 X0) \wedge ((v1_graph_4 X2 X0) \wedge (m2_graph_1 \\
& X2 X0)))) (\lambda X2 : \iota. (X2 \neq k1_xboole_0) \wedge ((k1_funct_1 (u1_graph_1 \\
& X0) (k1_funct_1 X2 np_1) = k1_funct_1 (u1_graph_1 X0) (k1_funct_1 \\
& X1 np_1)) \wedge ((k1_funct_1 (u2_graph_1 X0) (k1_funct_1 X2 (k3_finseq_1 \\
& X2)) = k1_funct_1 (u2_graph_1 X0) (k1_funct_1 X1 (k3_finseq_1 X1))) \wedge \\
& (r1_tarski (k10_xtuple_0 X2) (k10_xtuple_0 X1)))))) (\lambda X2 : \iota. \\
& X2)))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.((\\
& \neg v2_struct_0 X1) \wedge (l1_graph_1 X1)) \Rightarrow (\forall X2.(m2_finseq_1 \\
& X2 (u4_struct_0 X1)) \Rightarrow (\forall X3.((v7_graph_1 X3 X1) \wedge (m2_graph_1 \\
& X3 X1)) \Rightarrow (((X2 \in k6_graph_5 X1 X3) \wedge (r5_graph_5 X1 X0)) \Rightarrow (r1_xxreal_0 \\
& (k10_graph_5 X1 X2 X0) (k10_graph_5 X1 X3 X0))))))
\end{aligned}$$