

t9_graphsp (TMM- CTB5FDuusS2XKeUATSGWp5J7brzWerk4)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ 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 $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r8_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r2_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \wedge ((m1_finseq_1 X1 (u4_struct_0 X0)) \wedge ((v1_relat_1 X2) \wedge (v1_funct_1 X2)))) \Rightarrow (m1_subset_1 (k10_graph_5 X0 X1 X2) k1_numbers) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\
& (u1_struct_0 X0)) \Rightarrow (\forall X3.((v7_graph_1 X3 X0) \wedge (m2_graph_1 \\
& X3 X0)) \Rightarrow (\forall X4.\forall X5.((v1_relat_1 X5) \wedge (v1_funct_1 \\
& X5)) \Rightarrow ((r8_graph_5 X0 X1 X2 X3 X4 X5) \Leftrightarrow ((r2_graph_5 X0 X1 X2 X3 X4) \wedge \\
& (\forall X6.((v7_graph_1 X6 X0) \wedge (m2_graph_1 X6 X0)) \Rightarrow ((r2_graph_5 \\
& X0 X1 X2 X6 X4) \Rightarrow (r1_xxreal_0 (k10_graph_5 X0 X3 X5) (k10_graph_5 \\
& X0 X6 X5))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xxreal_0 X0) \tag{6}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\
& ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow (\forall X2.((v7_graph_1 \\
& X2 X0) \wedge (m2_graph_1 X2 X0)) \Rightarrow (\forall X3.((v1_relat_1 X3) \wedge (v1_funct_1 \\
& X3)) \Rightarrow (\forall X4.\forall X5.(m1_subset_1 X5 (u1_struct_0 X0)) \Rightarrow \\
& (\forall X6.(m1_subset_1 X6 (u1_struct_0 X0)) \Rightarrow (((r8_graph_5 \\
& X0 X5 X6 X1 X4 X3) \wedge (r8_graph_5 X0 X5 X6 X2 X4 X3)) \Rightarrow (k10_graph_5 X0 X1 \\
& X3 = k10_graph_5 X0 X2 X3))))))
\end{aligned}$$