

t54_graph_3

(TMRfF7khsPETT wHEZ7zZ2LRrepkmJ2p5zw9)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_graph_1 : \iota \Rightarrow o$ 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 $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k12_graph_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k7_graph_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $np_0 : \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $m2_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_graph_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & ((v2_funct_1 X0) \Leftrightarrow (k5_card_1 (k10_xtuple_0 X0) = k3_finseq_1 X0)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(v1_finset_1 X1) \Rightarrow ((\\ & r1_tarski X0 X1) \Rightarrow (r1_xxreal_0 (k5_card_1 X0) (k5_card_1 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$v1_xboole_0 \text{ np_}0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (8)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 X2 X0 X1) \Rightarrow (m2_finseq_1 X2 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v6_graph_1 X0) \wedge (l1_graph_1 X0))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (((\neg v1_xboole_0 (k12_graph_3 X0 X1 X2)) \wedge (m1_finseq_2 (k12_graph_3 X0 X1 X2) (u4_struct_0 X0))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow ((m1_finseq_1 X1 X0) \Leftrightarrow (r1_tarski (k10_xtuple_0 X1) X0)) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v6_graph_1 X0) \wedge (l1_graph_1 X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(k7_graph_3 X0 X1 X2 \neq k6_numbers) \Rightarrow (k12_graph_3 X0 X1 X2 = \text{ReplSep} (\text{toset} (\lambda X3 : \iota.m2_finseq_2 X3 X2 (k3_finseq_2 X2))) (\lambda X3 : \iota.((v2_funct_1 X3) \wedge (m2_graph_1 X3 X0)) \wedge ((\neg v1_xboole_0 X3) \wedge (\exists X4.(m2_finseq_1 X4 (u1_struct_0 X0)) \wedge ((r1_graph_2 X0 X4 X3) \wedge (k1_funct_1 X4 \text{ np_}1 = X1)))))) (\lambda X3 : \iota.X3)))) \quad (15)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_finset_1 X1)) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1) \wedge ((v6_graph_1 X1) \wedge (l1_graph_1 X1))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow \\ & (\forall X3.(m2_finseq_2 X3 (u4_struct_0 X1) (k12_graph_3 X1 X2 X0)) \Rightarrow (\forall X4.(v1_finset_1 X4) \Rightarrow ((X4 = u4_struct_0 X1) \Rightarrow ((k7_graph_3 X1 X2 X0 = k6_numbers) \vee (r1_xxreal_0 (k3_finseq_1 X3) (k5_card_1 X4))))))) \end{aligned}$$