

t53_graph_5

(TMd1j41Uh9yUmZULTDKh78RrZkq18EUJdZq)

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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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_graph_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0 : \iota \Rightarrow \iota. \forall X1. \exists X2. (m1_subset_1 X2 X1) \wedge \\ & (\forall X3. (m1_subset_1 X3 X1) \Rightarrow (r1_xxreal_0 (X0 X2) (X0 X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k3_finseq_2 X0)))) \Rightarrow (\forall X2. (m1_graph_5 X2 X0 X1) \Leftrightarrow (m1_subset_1 \\ & X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k3_finseq_2 X0)))) \Rightarrow (\forall X2. (m1_graph_5 X2 X0 X1) \Rightarrow (m2_finseq_1 \\ & X2 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow \\ & (X1 \in X0))) \wedge ((v1_xboole_0 X0) \Rightarrow ((m1_subset_1 X1 X0) \Leftrightarrow (v1_xboole_0 \\ & X1))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((\neg v2_struct_0 X2) \wedge (l1_graph_1 X2)) \Rightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X2)) \Rightarrow (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X2)) \Rightarrow (\forall X5. ((\neg v1_xboole_0 X5) \wedge ((v1_finset_1 X5) \wedge (m1_subset_1 \\ & X5 (k1_zfmisc_1 (k3_finseq_2 (u4_struct_0 X2)))))) \Rightarrow (\neg (X5 = k5_graph_5 \\ & X2 X3 X4 X0) \wedge (\forall X6. (m2_finseq_1 X6 (u4_struct_0 X2)) \Rightarrow (\neg (\\ & X6 \in X5) \wedge (\forall X7. (m2_finseq_1 X7 (u4_struct_0 X2)) \Rightarrow ((X7 \in X5) \Rightarrow \\ & (r1_xreal_0 (k10_graph_5 X2 X6 X1) (k10_graph_5 X2 X7 X1)))))))))) \end{aligned}$$