

t51_graph_3 (TMSzHZaVbmu- JpGvMTkZeoNSU3aKsLUKvjmM)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k9_graph_3 : \iota \Rightarrow \iota$ be given. Let $m1_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_msscyc_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m1_graph_1 X1 X0) \Rightarrow ((X1 = k1_xboole_0) \Rightarrow (v1_msscyc_1 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (m2_graph_1 k1_xboole_0 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m2_graph_1 X1 X0) \Leftrightarrow (m1_graph_1 X1 X0)) \end{aligned} \quad (3)$$

Assume the following.

$$v1_xboole_0 k1_xboole_0 \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (m1_finseq_2 (k9_graph_3 X0) (u4_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m1_finseq_2 X1 (u4_struct_0 X0)) \Rightarrow ((X1 = k9_graph_3 X0) \Leftrightarrow (\forall X2. \\ & (X2 \in X1) \Leftrightarrow ((v2_funct_1 X2) \wedge ((v1_msscyc_1 X2 X0) \wedge (m2_graph_1 X2 \\ & X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m1_graph_1 X1 X0) \Rightarrow ((v1_xboole_0 X1) \Rightarrow (v2_funct_1 X1))) \end{aligned} \quad (7)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (k1_xboole_0 \in k9_graph_3 X0)$$