

t18_graph_4
(TMMSJFGT6D3aQvEnhQ1i2nUunu957Py1z3q)

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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 $v3_graph_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_graph_4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_graph_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r1_graph_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow (\exists X2.(m2_finseq_1 \\ & X2 (u1_struct_0 X0)) \wedge (r3_graph_4 X0 X2 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((v7_graph_1 X2 \\ & X0) \wedge (m2_graph_1 X2 X0)) \Rightarrow ((r3_graph_4 X0 X1 X2) \Rightarrow (r1_graph_2 X0 \\ & X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.((v3_graph_2 X2 \\ & X0) \wedge (m2_graph_1 X2 X0)) \Rightarrow ((r1_graph_2 X0 X1 X2) \Rightarrow (\forall X3.(m2_subset_1 \\ & X3 k1_numbers k5_numbers) \Rightarrow (\forall X4.(m2_subset_1 X4 k1_numbers \\ & k5_numbers) \Rightarrow (((r1_xxreal_0 np_1 X3) \wedge ((r1_xxreal_0 X4 (k3_finseq_1 \\ & X1)) \wedge (k1_funct_1 X1 X3 = k1_funct_1 X1 X4))) \Rightarrow ((r1_xxreal_0 X4 X3) \vee \\ & ((X3 = np_1) \wedge (X4 = k3_finseq_1 X1)))))))))) \end{aligned} \quad (4)$$

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.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1) \wedge (v3_ordinal1 k4_ordinal1) \quad (8)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & ((v7_graph_1 X1 X0) \wedge (m2_graph_1 X1 X0)) \Rightarrow ((v1_graph_4 X1 X0) \Leftrightarrow (\\ & \exists X2. (m2_finseq_1 X2 (u1_struct_0 X0)) \wedge ((r3_graph_4 X0 \\ & X2 X1) \wedge (\forall X3. (m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4. (\\ & m1_subset_1 X4 k5_numbers) \Rightarrow (((r1_xxreal_0 np_1 X3) \wedge ((r1_xxreal_0 \\ & X4 (k3_finseq_1 X2)) \wedge (k1_funct_1 X2 X3 = k1_funct_1 X2 X4))) \Rightarrow ((\\ & r1_xxreal_0 X4 X3) \vee ((X3 = np_1) \wedge (X4 = k3_finseq_1 X2)))))))))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_graph_1 X0)) \Rightarrow (\forall X1. \\ & ((v7_graph_1 X1 X0) \wedge ((v3_graph_2 X1 X0) \wedge (m2_graph_1 X1 X0))) \Rightarrow \\ & (\forall X2. ((v7_graph_1 X2 X0) \wedge (m2_graph_1 X2 X0)) \Rightarrow ((X2 = X1) \Rightarrow \\ & (v1_graph_4 X2 X0))) \end{aligned}$$