

t4_graph_4 (TMMbMeFUEDZTWmtB- wQA8C5WiEeYztj7jQJy)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_graph_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v7_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_graph_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_graph_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $r1_graph_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_graph_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_graph_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $u4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg (X0 \in X1) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X2)) \wedge (v1_xboole_0 X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l1_graph_1 X1)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow ((r1_graph_4 X1 X2 X3 X0) \Rightarrow (r2_graph_1 X1 X2 X3 X0)))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_graph_1 X0))\Rightarrow(\forall X1.(m2_graph_1 X1 X0)\Leftrightarrow(m1_graph_1 X1 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (6)$$

Assume the following.

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

Assume the following.

$$\exists X0.(m1_subset_1 X0 k5_numbers)\wedge((\neg v1_xboole_0 X0)\wedge(v1_ordinal1 X0)\wedge(v2_ordinal1 X0)\wedge(v3_ordinal1 X0)\wedge(v7_ordinal1 X0)\wedge(v1_xcmplx_0 X0)\wedge(v1_xxreal_0 X0)\wedge(v1_xreal_0 X0)\wedge(v1_finset_1 X0)\wedge(v1_card_1 X0)))) \quad (8)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_graph_1 X0))\Rightarrow(\forall X1.(m2_graph_1 X1 X0)\Rightarrow(m2_finseq_1 X1 (u4_struct_0 X0))) \quad (10)$$

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.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_graph_1 X0))\Rightarrow(\forall X1.(m1_graph_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1)))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X1)\wedge((v5_relat_1 X1 X0)\wedge(v1_funct_1 X1)))\Rightarrow(m1_subset_1 (k7_partfun1 X0 X1 X2) X0) \quad (14)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(l1_graph_1 X0))\Rightarrow(\forall X1. \\ (m2_finseq_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge \\ ((v1_funct_1 X2)\wedge(v1_finseq_1 X2))))\Rightarrow((r1_graph_2 X0 X1 X2)\Leftrightarrow(\\ (k3_finseq_1 X1 = k2_nat_1 (k3_finseq_1 X2) np_1)\wedge(\forall X3. \\ (m2_subset_1 X3 k1_numbers k5_numbers)\Rightarrow(((r1_xxreal_0 np_1 \\ X3)\wedge(r1_xxreal_0 X3 (k3_finseq_1 X2))))\Rightarrow(r2_graph_1 X0 (k7_partfun1 \\ (u1_struct_0 X0) X1 X3) (k7_partfun1 (u1_struct_0 X0) X1 (k2_nat_1 \\ X3 np_1)) (k1_funct_1 X2 X3)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(l1_graph_1 X0))\Rightarrow(\forall X1. \\ (m2_finseq_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.((v1_relat_1 X2)\wedge \\ ((v1_funct_1 X2)\wedge(v1_finseq_1 X2))))\Rightarrow((r3_graph_4 X0 X1 X2)\Leftrightarrow(\\ (k3_finseq_1 X1 = k2_nat_1 (k3_finseq_1 X2) np_1)\wedge(\forall X3. \\ (m1_subset_1 X3 k5_numbers)\Rightarrow(((r1_xxreal_0 np_1 X3)\wedge(r1_xxreal_0 \\ X3 (k3_finseq_1 X2))))\Rightarrow(r1_graph_4 X0 (k7_partfun1 (u1_struct_0 \\ X0) X1 X3) (k7_partfun1 (u1_struct_0 X0) X1 (k2_nat_1 X3 np_1)) \\ (k1_funct_1 X2 X3)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow(v5_relat_1 X1 X0) \quad (18)$$

Theorem 1

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