

t42_jgraph_1 (TMYS-
Tkw6rMQ6HdWm9ATi4b6QwYgrQ8iAhrj)

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Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ 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 $k2_goboard1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1))) \Rightarrow ((k3_finseq_1 X0 = k3_finseq_1 X1) \Leftrightarrow (k1_relset_1 k5_numbers \\ & X0 = k1_relset_1 k5_numbers X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow \\ & (\forall X1.(v7_ordinal1 X1) \Rightarrow ((X1 \in k1_relset_1 k5_numbers X0) \Leftrightarrow \\ & ((r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 X1 (k3_finseq_1 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \tag{3}$$

Assume the following.

$$r1_xxreal_0 np_1 np_1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (9)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow((v1_finset_1 (k1_card_1 X0))\wedge(v1_card_1 (k1_card_1 X0))) \quad (10)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow((\neg v1_xboole_0 (k1_card_1 X0))\wedge(v1_card_1 (k1_card_1 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow((v1_xboole_0 (k1_card_1 X0))\wedge(v1_card_1 (k1_card_1 X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (13)$$

Assume the following.

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

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (15)$$

Assume the following.

$$\forall X0.(m1_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow (m2_finseq_1 (k2_goboard1 X0) k1_numbers) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.(m2_finseq_1 X1 k1_numbers)\Rightarrow((X1 = k2_goboard1 X0)\Leftrightarrow \\ & ((k3_finseq_1 X1 = k3_finseq_1 X0)\wedge(\forall X2.(m2_subset_1 X2 \\ & k1_numbers k5_numbers)\Rightarrow((X2 \in k4_finseq_1 X1)\Rightarrow(k1_seq_1 X1 X2 = \\ & k18_euclid (k7_partfun1 (u1_struct_0 (k15_euclid np_2)) X0 X2)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0)\wedge(v1_finset_1 X0))\Rightarrow(v7_ordinal1 X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow \\ & ((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 X0)\wedge \\ & (v1_finseq_1 X0)))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v1_xxreal_0 X0) \quad (22)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow ((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finset_1 X0))) \quad (23)$$

Assume the following.

$$\forall X0.(v1_card_1 X0)\Rightarrow(v3_ordinal1 X0) \quad (24)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & ((r1_xxreal_0 np_1 (k3_finseq_1 X0))\Rightarrow((k3_finseq_1 (k2_goboard1 \\ & X0) = k3_finseq_1 X0)\wedge((k1_seq_1 (k2_goboard1 X0) np_1 = k18_euclid \\ & (k7_partfun1 (u1_struct_0 (k15_euclid np_2)) X0 np_1))\wedge(k1_seq_1 \\ & (k2_goboard1 X0) (k3_finseq_1 X0) = k18_euclid (k7_partfun1 (u1_struct_0 \\ & (k15_euclid np_2)) X0 (k3_finseq_1 X0)))))) \end{aligned}$$