

t51_fvsum_1

(TMVhvTv1oMkFyJ8x9rSLHiKuo3uWfgP2igp)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k9_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_finseq_1 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge (l3_algstr_0 X1)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X1)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\forall X4. \\ & (m2_finseq_1 X4 (u1_struct_0 X1)) \Rightarrow (((X0 \in k4_finseq_1 (k9_fvsum_1 \\ & X1 X4 X2)) \wedge (X3 = k1_funct_1 X4 X0)) \Rightarrow (k1_funct_1 (k9_fvsum_1 X1 X4 \\ & X2) X0 = k6_algstr_0 X1 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow ((\\ & X0 \in k2_finseq_1 X1) \Leftrightarrow ((r1_xxreal_0 np_1 X0) \wedge (r1_xxreal_0 X0 X1)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k4_finseq_1 X0 = k9_xtuple_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(k2_finseq_1 X0 = k1_finseq_1 X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X0 k5_numbers)\wedge((\neg v2_struct_0 X1)\wedge(l3_algstr_0 X1))\wedge((m1_subset_1 X2 (k4_finseq_2 X0 (u1_struct_0 X1)))\wedge(m1_subset_1 X3 (u1_struct_0 X1))))\Rightarrow(k10_fvsun_1 X0 X1 X2 X3 = k9_fvsun_1 X1 X2 X3) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (12)$$

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.

$$\forall X0.(l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0) \Rightarrow (m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X0 k5_numbers) \wedge ((\neg v2_struct_0 X1) \wedge (l3_algstr_0 X1)) \wedge ((m1_subset_1 X2 (k4_finseq_2 X0 (u1_struct_0 X1))) \wedge (m1_subset_1 X3 (u1_struct_0 X1)))) \Rightarrow (m2_finseq_2 (k10_fvsun_1 X0 X1 X2 X3) (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1 X1 X0) \Leftrightarrow (k1_card_1 X1 = X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow ((X1 = k3_finseq_1 X0) \Leftrightarrow (k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k1_finseq_1 X0 = \text{ReplSep} (\text{toset} (\lambda X1 : \iota.m2_subset_1 X1 k1_numbers k5_numbers)) (\lambda X1 : \iota.(r1_xxreal_0 np_1 X1) \wedge (r1_xxreal_0 X1 X0)) (\lambda X1 : \iota.X1)) \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge (v7_ordinal1 X1)) \Rightarrow (\forall X2.(m1_subset_1 X2 (k4_finseq_2 X1 X0)) \Rightarrow (v3_card_1 X2 X1)) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge (l3_algstr_0 \\ & X2)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X2)) \Rightarrow (\forall X4. \\ & (m1_subset_1 X4 (u1_struct_0 X2)) \Rightarrow (\forall X5.(m2_finseq_2 X5 \\ & (u1_struct_0 X2) (k4_finseq_2 X1 (u1_struct_0 X2))) \Rightarrow (((X0 \in k2_finseq_1 \\ & X1) \wedge (X3 = k1_funct_1 X5 X0)) \Rightarrow (k1_funct_1 (k10_fvsum_1 X1 X2 X5 X4) \\ & X0 = k6_algstr_0 X2 X4 X3)))))))) \end{aligned}$$