

t63_fvsum_1 (TMceDXNkiDUB-
nSZ4mG8EWc423v2fPqDDN95)

October 27, 2020

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 $v5_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_binop_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_finseqop : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k11_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow (\\ & \quad \forall X2. ((v3_card_1 X2 X1) \wedge (m2_finseq_1 X2 X0)) \Rightarrow (\forall X3. \\ & \quad ((v3_card_1 X3 X1) \wedge (m2_finseq_1 X3 X0)) \Rightarrow (\forall X4. ((v1_funct_1 \\ & \quad X4) \wedge ((v1_funct_2 X4 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\ & \quad (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \Rightarrow ((v1_binop_1 X4 X0) \Rightarrow \\ & \quad (r2_relset_1 k5_numbers X0 (k1_finseqop X0 X0 X0 X4 X2 X3) (k1_finseqop \\ & \quad X0 X0 X0 X4 X3 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X2 \\ & \quad (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \wedge (m1_subset_1 X3 (k1_zfmisc_1 \\ & \quad (k2_zfmisc_1 X0 X1)))) \Rightarrow ((r2_relset_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{2}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \end{aligned} \tag{4}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((m1_subset_1 X0 \\ k5_numbers) \wedge (((\neg v2_struct_0 X1) \wedge (l3_algstr_0 X1)) \wedge ((m1_subset_1 \\ X2 (k4_finseq_2 X0 (u1_struct_0 X1))) \wedge (m1_subset_1 X3 (k4_finseq_2 \\ X0 (u1_struct_0 X1)))))) \Rightarrow (k12_fvs_sum_1 X0 X1 X2 X3 = k11_fvs_sum_1 \\ X1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v5_group_1 X0) \wedge (l3_algstr_0 \\ X0))) \Rightarrow ((v1_funct_1 (u2_algstr_0 X0)) \wedge ((v1_funct_2 (u2_algstr_0 \\ X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 \\ X0)) \wedge (v1_binop_1 (u2_algstr_0 X0) (u1_struct_0 X0)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. (l3_algstr_0 X0) \Rightarrow ((v1_funct_1 (u2_algstr_0 X0)) \wedge \\ ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_algstr_0 \\ X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2. (m2_finseq_2 X2 X0 X1) \Rightarrow (m2_finseq_1 X2 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge (\\ (v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (l3_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (v7_ordinal1 X0) \Rightarrow (m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l3_algstr_0 X0))\wedge((m1_finseq_1 X1 (u1_struct_0 X0))\wedge(m1_finseq_1 X2 (u1_struct_0 X0))))\Rightarrow(m2_finseq_1 (k11_fvsu1_1 X0 X1 X2) (u1_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l3_algstr_0 X0))\Rightarrow(\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m2_finseq_1 X2 (u1_struct_0 X0))\Rightarrow(k11_fvsu1_1 X0 X1 X2 = k1_finseqop (u1_struct_0 X0) (u1_struct_0 X0) (u1_struct_0 X0) (u2_algstr_0 X0) X1 X2))) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(v7_ordinal1 X1))\Rightarrow(\forall X2.(m1_subset_1 X2 (k4_finseq_2 X1 X0))\Rightarrow(v3_card_1 X2 X1)) \quad (17)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k5_numbers)\Rightarrow(\forall X1.((\neg v2_struct_0 X1)\wedge((v5_group_1 X1)\wedge(l3_algstr_0 X1)))\Rightarrow(\forall X2.(m2_finseq_2 X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1)))\Rightarrow(\forall X3.(m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1)))\Rightarrow(k12_fvsu1_1 X0 X1 X2 X3 = k12_fvsu1_1 X0 X1 X3 X2))))))$$