

t77_fvsum_1

(TMZS7HcuQ3eYrGyTHjtthvd5iqmnsVhR9R)

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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 $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ 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 $k4_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_algstr_1 : \iota \Rightarrow o$ be given. Let $k6_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k1_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ 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 $l2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\
 & X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\
 & ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\
 & X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (\forall X3. \\
 & (m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 \\
 & X1))) \Rightarrow (k4_rlvect_1 X1 (k4_fvsum_1 X0 X1 X2 X3) = k3_rlvect_1 X1 (\\
 & k4_rlvect_1 X1 X2) (k4_rlvect_1 X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge (l2_algstr_0 X0)))))) \Rightarrow \\
 & (\forall X1.(m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (k4_rlvect_1 X0 \\
 & (k5_fvsum_1 X0 X1) = k4_algstr_0 X0 (k4_rlvect_1 X0 X1)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (\forall X3. \\ (m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 \\ X1))) \Rightarrow (\forall X4.(m2_finseq_2 X4 (u1_struct_0 X1) (k4_finseq_2 \\ X0 (u1_struct_0 X1))) \Rightarrow (k4_fvsu1 X0 X1 X2 (k8_fvsu1 X0 X1 X3 X4) = \\ k8_fvsu1 X0 X1 (k4_fvsu1 X0 X1 X2 X3) X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (k8_fvsu1 \\ X0 X1 X2 X2 = k5_finseq_2 (u1_struct_0 X1) X0 (k4_struct_0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v1_algstr_1 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge \\ (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 X2 (u1_struct_0 \\ X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (k8_fvsu1 X0 X1 (k5_finseq_2 \\ (u1_struct_0 X1) X0 (k4_struct_0 X1)) X2 = k6_fvsu1 X0 X1 X2))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_2 X1 X0) \Rightarrow (\forall X2. (m2_finseq_2 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((m1_subset_1 X0 k5_numbers) \wedge \\ (((\neg v2_struct_0 X1) \wedge (l2_algstr_0 X1)) \wedge (m1_subset_1 X2 (k4_finseq_2 \\ X0 (u1_struct_0 X1)))))) \Rightarrow (k6_fvsu1 X0 X1 X2 = k5_fvsu1 X1 X2) \end{aligned} \quad (8)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v2_rlvect_1 X0) \wedge (l1_algstr_0 \\ X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 \\ X0)))) \Rightarrow (k3_rlvect_1 X0 X1 X2 = k1_algstr_0 X0 X1 X2) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v1_algstr_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))) \Rightarrow \\ (\forall X2.(m2_finseq_2 X2 (u1_struct_0 X1) (k4_finseq_2 X0 (\\ u1_struct_0 X1))) \Rightarrow (k4_fvsu1_1 X0 X1 X2 (k5_finseq_2 (u1_struct_0 \\ X1) X0 (k4_struct_0 X1)) = X2))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 \\ (u1_struct_0 X0)) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_algstr_0 X0) \Rightarrow ((v1_funct_1 (u1_algstr_0 X0)) \wedge \\ ((v1_funct_2 (u1_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_algstr_0 \\ X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 X0 X1) \Rightarrow (m2_finseq_1 X2 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0) \Rightarrow (l1_struct_0 X0) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((m1_subset_1 X0 \\ k5_numbers) \wedge (((\neg v2_struct_0 X1) \wedge (l2_algstr_0 X1)) \wedge ((m1_subset_1 \\ X2 (k4_finseq_2 X0 (u1_struct_0 X1))) \wedge (m1_subset_1 X3 (k4_finseq_2 \\ X0 (u1_struct_0 X1)))))) \Rightarrow (m2_finseq_2 (k8_fvsu1_1 X0 X1 X2 X3) \\ (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers) \wedge \\ (((\neg v2_struct_0 X1) \wedge (l2_algstr_0 X1)) \wedge (m1_subset_1 X2 (k4_finseq_2 \\ X0 (u1_struct_0 X1)))))) \Rightarrow (m2_finseq_2 (k6_fvsu1_1 X0 X1 X2) (u1_struct_0 \\ X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1\ X0)\Rightarrow(m1_finseq_2\ (k4_finseq_2\ X0\ X1)\ X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((l2_algstr_0\ X0)\wedge(m1_subset_1\ X1\ (u1_struct_0\ X0)))\Rightarrow(m1_subset_1\ (k4_algstr_0\ X0\ X1)\ (u1_struct_0\ X0)) \quad (20)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0)\wedge((m1_finseq_1\ X1\ X0)\wedge((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k2_zfmisc_1\ X0\ X0)\ X0)\wedge \\ &(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ X0\ X0)\ X0))))))\Rightarrow(m1_subset_1\ (k1_finsop_1\ X0\ X1\ X2)\ X0) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge((v13_algstr_0\ X0)\wedge((v2_rlvect_1\ X0)\wedge((v3_rlvect_1\ X0)\wedge((v4_rlvect_1\ X0)\wedge(l2_algstr_0\ X0))))))\Rightarrow \\ &(\forall X1.(m2_finseq_1\ X1\ (u1_struct_0\ X0))\Rightarrow(k4_rlvect_1\ X0\ X1 = k1_finsop_1\ (u1_struct_0\ X0)\ X1\ (u1_algstr_0\ X0))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(l2_algstr_0\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(k5_algstr_0\ X0\ X1\ X2 = k1_algstr_0\ X0\ X1\ (k4_algstr_0\ X0\ X2)))) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k4_ordinal1)\Rightarrow(v7_ordinal1\ X0) \quad (24)$$

Assume the following.

$$\forall X0.(l2_algstr_0\ X0)\Rightarrow(((\neg v2_struct_0\ X0)\wedge((v2_rlvect_1\ X0)\wedge(v4_rlvect_1\ X0)))\Rightarrow((\neg v2_struct_0\ X0)\wedge(v1_algstr_1\ X0))) \quad (25)$$

Theorem 1

$$\begin{aligned} &\forall X0.(m1_subset_1\ X0\ k5_numbers)\Rightarrow(\forall X1.((\neg v2_struct_0\ X1)\wedge((v13_algstr_0\ X1)\wedge((v2_rlvect_1\ X1)\wedge((v3_rlvect_1\ X1)\wedge \\ &((v4_rlvect_1\ X1)\wedge(l2_algstr_0\ X1))))))\Rightarrow(\forall X2.(m2_finseq_2\ X2\ (u1_struct_0\ X1)\ (k4_finseq_2\ X0\ (u1_struct_0\ X1)))\Rightarrow(\forall X3. \\ &(m2_finseq_2\ X3\ (u1_struct_0\ X1)\ (k4_finseq_2\ X0\ (u1_struct_0\ X1)))\Rightarrow(k4_rlvect_1\ X1\ (k8_fvsum_1\ X0\ X1\ X2\ X3) = k5_algstr_0\ X1\ (\\ &k4_rlvect_1\ X1\ X2)\ (k4_rlvect_1\ X1\ X3)))) \end{aligned}$$