

t40_fvsum_1

(TMSP9AMewZMhU2FaLMu211BMVs23UMkM4q6)

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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 $k6_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_algstr_1 : \iota \Rightarrow o$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v4_algstr_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((v13_algstr_0 X1) \wedge ((v1_algstr_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ & ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 \\ & X1))) \Rightarrow (k8_fvsum_1 X0 X1 X2 (k6_fvsum_1 X0 X1 X3) = k4_fvsum_1 X0 X1 \\ & X2 X3)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ & X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ & ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (\forall X3. \\ & (m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 \\ & X1))) \Rightarrow (k6_fvsum_1 X0 X1 (k4_fvsum_1 X0 X1 X2 X3) = k4_fvsum_1 X0 X1 \\ & (k6_fvsum_1 X0 X1 X2) (k6_fvsum_1 X0 X1 X3)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v13_algstr_0 X1) \wedge ((v1_algstr_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (k6_fvsu1 \\ X0 X1 (k6_fvsu1 X0 X1 X2) = X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((m1_subset_1 X0 k5_numbers) \wedge \\ (((\neg v2_struct_0 X1) \wedge (l2_algstr_0 X1)) \wedge (m1_subset_1 X2 (k4_finseq_2 \\ X0 (u1_struct_0 X1)))) \Rightarrow (m2_finseq_2 (k6_fvsu1 X0 X1 X2) (u1_struct_0 \\ X1) (k4_finseq_2 X0 (u1_struct_0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0) \Rightarrow (m1_finseq_2 (k4_finseq_2 \\ X0 X1) X1) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_algstr_0 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 \\ X0) \wedge ((v3_rlvect_1 X0) \wedge (v4_rlvect_1 X0)))) \Rightarrow ((\neg v2_struct_0 X0) \wedge \\ ((v1_algstr_1 X0) \wedge (v4_algstr_1 X0)))) \end{aligned} \quad (9)$$

Theorem 1

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v2_struct_0 \\ X1) \wedge ((v13_algstr_0 X1) \wedge ((v2_rlvect_1 X1) \wedge ((v3_rlvect_1 X1) \wedge \\ ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))))) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 X1))) \Rightarrow (\forall X3. \\ (m2_finseq_2 X3 (u1_struct_0 X1) (k4_finseq_2 X0 (u1_struct_0 \\ X1))) \Rightarrow (k6_fvsu1 X0 X1 (k8_fvsu1 X0 X1 X2 X3) = k4_fvsu1 X0 X1 \\ (k6_fvsu1 X0 X1 X2) X3)))) \end{aligned}$$