

t9_matrix14

(TMRAvPVVqpor4szSkHEYEb5hArBzvbq7pwa)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v33_algstr_0 : \iota \Rightarrow o$ 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k13_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_group_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_fvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\
 & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m2_finseq_1 X2 \\
 & (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\
 & ((k3_finseq_1 X1 = k3_finseq_1 X2) \Rightarrow ((k11_fvsum_1 X0 (k9_fvsum_1 \\
 & X0 X1 X3) X2 = k9_fvsum_1 X0 (k11_fvsum_1 X0 X1 X2) X3) \wedge (k11_fvsum_1 \\
 & X0 X1 (k9_fvsum_1 X0 X2 X3) = k9_fvsum_1 X0 (k11_fvsum_1 X0 X1 X2) X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v5_vectsp_1 X0) \wedge \\
 & (l6_algstr_0 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X2. (m2_finseq_1 X2 (u1_struct_0 X0)) \Rightarrow (k4_rlvect_1 \\
 & X0 (k9_fvsum_1 X0 X2 X1) = k6_algstr_0 X0 X1 (k4_rlvect_1 X0 X2))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v5_group_1 \\ X0)\wedge(l3_algstr_0 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge \\ m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow(k8_group_1 X0 X1 X2 = k6_algstr_0 \\ X0 X1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l3_algstr_0 \\ X0))\wedge((m1_finseq_1 X1 (u1_struct_0 X0))\wedge(m1_subset_1 X2 (u1_struct_0 \\ X0))))\Rightarrow(m2_finseq_1 (k9_fvsum_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l6_algstr_0 \\ X0))\wedge((m1_finseq_1 X1 (u1_struct_0 X0))\wedge(m1_finseq_1 X2 (u1_struct_0 \\ X0))))\Rightarrow(m1_subset_1 (k13_fvsum_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l3_algstr_0 \\ X0))\wedge((m1_finseq_1 X1 (u1_struct_0 X0))\wedge(m1_finseq_1 X2 (u1_struct_0 \\ X0))))\Rightarrow(m2_finseq_1 (k11_fvsum_1 X0 X1 X2) (u1_struct_0 X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge(l6_algstr_0 X0))\Rightarrow(\forall X1. \\ (m2_finseq_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.(m2_finseq_1 X2 \\ (u1_struct_0 X0))\Rightarrow(k13_fvsum_1 X0 X1 X2 = k4_rlvect_1 X0 (k11_fvsum_1 \\ X0 X1 X2)))) \end{aligned} \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (m2_finseq_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. (m2_finseq_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & ((k3_finseq_1 X1 = k3_finseq_1 X2) \Rightarrow (k13_fvsun_1 X0 (k9_fvsun_1 \\ & X0 X1 X3) X2 = k8_group_1 X0 X3 (k13_fvsun_1 X0 X1 X2)))))) \end{aligned}$$