

t21_matrix_5

(TMWY9NdKoq4BZxqGsU3V2FQ96XLpKQ6xutN)

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Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k7_matrix_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. 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 $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ 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 $v4_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_complfld : \iota$ be given. Let $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ be given. Let $k2_matrix_5 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_5 : \iota \Rightarrow \iota$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k27_binop_2 : \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $k29_binop_2 : \iota$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_complex1 : \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
 & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. ((v1_matrix_1 \\
 & X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
 & ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
 & X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 X3) \wedge (k1_matrix_1 X2 = k1_matrix_1 \\
 & X3)) \Rightarrow (k6_matrix_3 X0 (k3_matrix_3 X0 X2 X3) X1 = k3_matrix_3 X0 (\\
 & k6_matrix_3 X0 X2 X1) (k6_matrix_3 X0 X3 X1))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \tag{2}$$

Assume the following.

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

Assume the following.

$$\forall X0.k3_finseq_2 X0 = k13_finseq_1 X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & (\neg v6_struct_0 k1_complfld)\wedge((v13_algstr_0 k1_complfld)\wedge((\\ & v33_algstr_0 k1_complfld)\wedge((v36_algstr_0 k1_complfld)\wedge((v3_group_1 \\ & k1_complfld)\wedge((v5_group_1 k1_complfld)\wedge((v3_vectsp_1 k1_complfld)\wedge \\ & ((v5_vectsp_1 k1_complfld)\wedge((v6_vectsp_1 k1_complfld)\wedge((v2_rlvect_1 \\ & k1_complfld)\wedge((v3_rlvect_1 k1_complfld)\wedge(v4_rlvect_1 k1_complfld)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$(v36_algstr_0 k1_complfld)\wedge(v4_vectsp_1 k1_complfld) \quad (6)$$

Assume the following.

$$(\neg v2_struct_0 k1_complfld)\wedge(v36_algstr_0 k1_complfld) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge((v1_matrix_1 X1)\wedge(\\ & m1_finseq_1 X1 (k3_finseq_2 k2_numbers))))\Rightarrow((v1_matrix_1 (k7_matrix_5 \\ & X0 X1))\wedge(m2_finseq_1 (k7_matrix_5 X0 X1) (k3_finseq_2 k2_numbers))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 \\ & X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge \\ & ((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 \\ & X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\wedge \\ & (((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ & X0))))\wedge(m1_subset_1 X2 (u1_struct_0 X0))))\Rightarrow((v1_matrix_1 (k6_matrix_3 \\ & X0 X1 X2))\wedge(m2_finseq_1 (k6_matrix_3 X0 X1 X2) (k3_finseq_2 (u1_struct_0 \\ & X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1_matrix_1 X0)\wedge(m1_finseq_1 X0 (k3_finseq_2 \\ & k2_numbers)))\wedge((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 \\ & k2_numbers))))\Rightarrow((v1_matrix_1 (k3_matrix_5 X0 X1))\wedge(m2_finseq_1 \\ & (k3_matrix_5 X0 X1) (k3_finseq_2 k2_numbers))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 \\ & X0) \wedge (v13_algstr_0 X0) \wedge (v33_algstr_0 X0) \wedge (v3_group_1 X0) \wedge \\ & ((v5_group_1 X0) \wedge (v2_rlvect_1 X0) \wedge (v3_rlvect_1 X0) \wedge (v4_rlvect_1 \\ & X0) \wedge (v4_vectsp_1 X0) \wedge (v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))) \wedge \\ & (((v1_matrix_1 X1) \wedge (m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ & X0)))) \wedge ((v1_matrix_1 X2) \wedge (m1_finseq_1 X2 (k3_finseq_2 (u1_struct_0 \\ & X0)))))) \Rightarrow ((v1_matrix_1 (k3_matrix_3 X0 X1 X2)) \wedge (m2_finseq_1 \\ & (k3_matrix_3 X0 X1 X2) (k3_finseq_2 (u1_struct_0 X0)))) \end{aligned} \quad (11)$$

Assume the following.

$$(v36_algstr_0 k1_complfld) \wedge (l6_algstr_0 k1_complfld) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_xcmplx_0 X0) \Rightarrow (\forall X1. ((v1_matrix_1 X1) \wedge (\\ & m2_finseq_1 X1 (k3_finseq_2 k2_numbers))) \Rightarrow (\forall X2. ((v1_matrix_1 \\ & X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 k2_numbers))) \Rightarrow ((X2 = k7_matrix_5 \\ & X0 X1) \Leftrightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 k1_complfld)) \Rightarrow \\ & ((X3 = X0) \Rightarrow (X2 = k2_matrix_5 (k6_matrix_3 k1_complfld (k1_matrix_5 \\ & X1) X3)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 k2_numbers))) \Rightarrow \\ & (\forall X1. ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 k2_numbers))) \Rightarrow \\ & (k3_matrix_5 X0 X1 = k2_matrix_5 (k3_matrix_3 k1_complfld (k1_matrix_5 \\ & X0) (k1_matrix_5 X1)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 X0) \Leftrightarrow (X0 \in k2_numbers) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 (u1_struct_0 \\ & k1_complfld)))) \Rightarrow (k2_matrix_5 X0 = X0) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 k2_numbers))) \Rightarrow \\ & (k1_matrix_5 X0 = X0) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v36_algstr_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((X0 = k1_complfld) \Leftrightarrow \\ & ((u1_struct_0 X0 = k2_numbers) \wedge ((u1_algstr_0 X0 = k27_binop_2) \wedge \\ & ((u2_algstr_0 X0 = k29_binop_2) \wedge ((k5_struct_0 X0 = k6_complex1) \wedge \\ & (k4_struct_0 X0 = k5_complex1)))))) \end{aligned} \quad (18)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 k2_numbers))) \Rightarrow \\ & (\forall X1.((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 k2_numbers))) \Rightarrow \\ & (\forall X2.(v1_xcmplx_0 X2) \Rightarrow (((k3_finseq_1 X0 = k3_finseq_1 \\ & X1) \wedge (k1_matrix_1 X0 = k1_matrix_1 X1)) \Rightarrow (k7_matrix_5 X2 (k3_matrix_5 \\ & X0 X1) = k3_matrix_5 (k7_matrix_5 X2 X0) (k7_matrix_5 X2 X1)))))) \end{aligned}$$