

t10_matrixc1 (TMGCHJZA- tkNQN8FstJz58ccTtazSxYxFUTC)

October 27, 2020

Let $v7_ordinal1 : \iota \Rightarrow o$ be given. 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 $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix_5 : \iota \Rightarrow \iota$ be given. Let $k1_binop_2 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_complfld : \iota$ be given. Let $k1_matrix_5 : \iota \Rightarrow \iota$ be given. Let $k2_matrix_5 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $v36_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v5_group_1 : \iota \Rightarrow o$ be given. Let $v3_vectsp_1 : \iota \Rightarrow o$ be given. Let $v5_vectsp_1 : \iota \Rightarrow o$ be given. Let $v6_vectsp_1 : \iota \Rightarrow o$ 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 $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $k2_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ 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. Let $g6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u3_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_struct_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 (u1_struct_0 k1_complfld)))) \Rightarrow (X0 = k1_matrix_5 (k2_matrix_5 X0)) \quad (1)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 k1_complfld)) \Rightarrow (\forall X1.(v1_xcmplx_0 X1) \Rightarrow ((X0 = X1) \Rightarrow (k4_algstr_0 k1_complfld X0 = k1_binop_2 X1))) \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & (\neg v6_struct_0 \ k1_complfld) \wedge ((v13_algstr_0 \ k1_complfld) \wedge ((\\ & \quad v33_algstr_0 \ k1_complfld) \wedge ((v36_algstr_0 \ k1_complfld) \wedge ((v3_group_1 \\ & \quad k1_complfld) \wedge ((v5_group_1 \ k1_complfld) \wedge ((v3_vectsp_1 \ k1_complfld) \wedge \\ & \quad ((v5_vectsp_1 \ k1_complfld) \wedge ((v6_vectsp_1 \ k1_complfld) \wedge ((v2_rlvect_1 \\ & \quad k1_complfld) \wedge ((v3_rlvect_1 \ k1_complfld) \wedge (v4_rlvect_1 \ k1_complfld)))))))))) \\ & \hspace{15em} (4) \end{aligned}$$

Assume the following.

$$(v36_algstr_0 \ k1_complfld) \wedge (v4_vectsp_1 \ k1_complfld) \hspace{10em} (5)$$

Assume the following.

$$(\neg v2_struct_0 \ k1_complfld) \wedge (v36_algstr_0 \ k1_complfld) \hspace{10em} (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_matrix_1 \ X0) \wedge (m1_finseq_1 \ X0 \ (k3_finseq_2 \ k2_numbers))) \Rightarrow \\ & \quad ((v1_matrix_1 \ (k4_matrix_5 \ X0)) \wedge (m2_finseq_1 \ (k4_matrix_5 \ X0) \\ & \quad \quad (k3_finseq_2 \ k2_numbers))) \\ & \hspace{15em} (7) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_matrix_1 \ X1) \wedge \\ & \quad (m1_finseq_1 \ X1 \ (k3_finseq_2 \ X0))) \wedge ((v7_ordinal1 \ X2) \wedge (v7_ordinal1 \\ & \quad \quad X3))) \Rightarrow (m1_subset_1 \ (k3_matrix_1 \ X0 \ X1 \ X2 \ X3) \ X0) \\ & \hspace{15em} (8) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 \ X0) \wedge ((\neg v6_struct_0 \ X0) \wedge \\ & \quad ((v13_algstr_0 \ X0) \wedge ((v33_algstr_0 \ X0) \wedge ((v3_group_1 \ X0) \wedge ((v5_group_1 \\ & \quad \quad X0) \wedge ((v2_rlvect_1 \ X0) \wedge ((v3_rlvect_1 \ X0) \wedge ((v4_rlvect_1 \ X0) \wedge \\ & \quad \quad ((v4_vectsp_1 \ X0) \wedge ((v5_vectsp_1 \ X0) \wedge (l6_algstr_0 \ X0)))))))))) \wedge \\ & \quad ((v1_matrix_1 \ X1) \wedge (m1_finseq_1 \ X1 \ (k3_finseq_2 \ (u1_struct_0 \\ & \quad \quad X0)))) \Rightarrow ((v1_matrix_1 \ (k2_matrix_3 \ X0 \ X1)) \wedge (m2_finseq_1 \ (k2_matrix_3 \\ & \quad \quad X0 \ X1) \ (k3_finseq_2 \ (u1_struct_0 \ X0)))) \\ & \hspace{15em} (9) \end{aligned}$$

Assume the following.

$$(v36_algstr_0 \ k1_complfld) \wedge (l6_algstr_0 \ k1_complfld) \hspace{10em} (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_matrix_1 \ X0) \wedge (m2_finseq_1 \ X0 \ (k3_finseq_2 \ k2_numbers))) \Rightarrow \\ & \quad (k4_matrix_5 \ X0 = k2_matrix_5 \ (k2_matrix_3 \ k1_complfld \ (k1_matrix_5 \\ & \quad \quad X0))) \\ & \hspace{15em} (11) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((X2 = k2_matrix_3 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = \\
& k3_finseq_1 X1) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X1) \wedge (\forall X3. \\
& (v7_ordinal1 X3) \Rightarrow (\forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X3 \\
& X4 \in k2_matrix_1 X1) \Rightarrow (k3_matrix_1 (u1_struct_0 X0) X2 X3 X4 = k4_algstr_0 \\
& X0 (k3_matrix_1 (u1_struct_0 X0) X1 X3 X4))))))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\forall X0.((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 k2_numbers))) \Rightarrow (k1_matrix_5 X0 = X0) \tag{13}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v36_algstr_0 X0) \wedge (l6_algstr_0 X0)) \Rightarrow ((X0 = k1_complfld) \Leftrightarrow \\
& ((u1_struct_0 X0 = k2_numbers) \wedge ((u1_algstr_0 X0 = k27_binop_2) \wedge \\
& (u2_algstr_0 X0 = k29_binop_2) \wedge ((k5_struct_0 X0 = k6_complex1) \wedge \\
& (k4_struct_0 X0 = k5_complex1))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \tag{15}$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0) \Rightarrow ((v36_algstr_0 X0) \Rightarrow (X0 = g6_algstr_0 (u1_struct_0 X0) (u1_algstr_0 X0) (u2_algstr_0 X0) (u3_struct_0 X0) (u2_struct_0 X0))) \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\
& ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 k2_numbers))) \Rightarrow \\
& ((k4_tarski X0 X1 \in k2_matrix_1 X2) \Rightarrow (k3_matrix_1 k2_numbers (k4_matrix_5 \\
& X2) X0 X1 = k1_binop_2 (k3_matrix_1 k2_numbers X2 X0 X1))))))
\end{aligned}$$