

t19_matrixr2

(TMN6s99d5zCMwEY9SJ2n6cV14aZaw2ZQdSE)

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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 $v3_group_1 : \iota \Rightarrow o$ 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 $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k4_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_matrix_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k3_rlvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
 & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
 & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
 & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
 & ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
 & X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
 & (u1_struct_0 X0)))) \Rightarrow (\forall X3. ((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
 & X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 \\
 & X3) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X3) \wedge (k3_finseq_1 X1 = k1_matrix_1 \\
 & X2))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X2) k6_numbers) \vee ((r1_xxreal_0 \\
 & (k3_finseq_1 X1) k6_numbers) \vee (k4_matrix_3 X0 (k3_matrix_3 X0 \\
 & X2 X3) X1 = k3_matrix_3 X0 (k4_matrix_3 X0 X2 X1) (k4_matrix_3 X0 X3 \\
 & X1)))))))))
 \end{aligned}$$

(1)

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 \\
& X3) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X3) \wedge (k1_matrix_1 X1 = k3_finseq_1 \\
& X2))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X1) k6_numbers) \vee ((r1_xxreal_0 \\
& (k3_finseq_1 X2) k6_numbers) \vee (k4_matrix_3 X0 X1 (k3_matrix_3 \\
& X0 X2 X3) = k3_matrix_3 X0 (k4_matrix_3 X0 X1 X2) (k4_matrix_3 X0 X1 \\
& X3)))))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (k1_matrix_4 X0 X1 (k2_matrix_3 X0 X2) = k3_matrix_3 \\
& X0 X1 X2)))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (k1_matrix_4 X0 (k1_matrix_3 X0 (k3_finseq_1 X1) (k1_matrix_1 \\
& X1)) X1 = k2_matrix_3 X0 X1))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X1 = k3_finseq_1 \\
& X2) \wedge ((k3_finseq_1 X2 = k3_finseq_1 X3) \wedge ((k1_matrix_1 X1 = k1_matrix_1 \\
& X2) \wedge (k1_matrix_1 X2 = k1_matrix_1 X3)))) \Rightarrow (k1_matrix_4 X0 (k1_matrix_4 \\
& X0 X3 X1) (k1_matrix_4 X0 X3 X2) = k2_matrix_3 X0 (k1_matrix_4 X0 X1 \\
& X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (k1_matrix_4 X0 X1 X1 = k1_matrix_3 X0 (k3_finseq_1 X1) (\\
& k1_matrix_1 X1)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (k3_matrix_3 X0 X1 (k2_matrix_3 X0 X1) = k1_matrix_3 X0 (\\
& k3_finseq_1 X1) (k1_matrix_1 X1)))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((k1_matrix_1 X1 = k3_finseq_1 X2) \Rightarrow ((r1_xxreal_0 \\
& (k3_finseq_1 X1) k6_numbers) \vee ((r1_xxreal_0 (k3_finseq_1 X2) \\
& k6_numbers) \vee (k4_matrix_3 X0 (k1_matrix_3 X0 (k3_finseq_1 X1) \\
& (k1_matrix_1 X1)) X2 = k1_matrix_3 X0 (k3_finseq_1 X1) (k1_matrix_1 \\
& X2))))))
\end{aligned} \tag{8}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& (m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (\\
& m2_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (\forall X3. \\
& ((v1_matrix_1 X3) \wedge (m2_finseq_1 X3 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\neg(\neg r1_xxreal_0 (k1_matrix_1 X2) k6_numbers) \wedge ((\neg r1_xxreal_0 \\
& (k3_finseq_1 X2) k6_numbers) \wedge (k4_matrix_3 X0 X2 (k1_matrix_3 \\
& X0 (k1_matrix_1 X2) X1) \neq k1_matrix_3 X0 (k3_finseq_1 X2) X1))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X2 = k3_finseq_1 \\
& X3) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X3) \wedge (k3_finseq_1 X1 = k1_matrix_1 \\
& X2))) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X2) k6_numbers) \vee ((r1_xxreal_0 \\
& (k3_finseq_1 X1) k6_numbers) \vee (k4_matrix_3 X0 (k1_matrix_4 X0 \\
& X2 X3) X1 = k1_matrix_4 X0 (k4_matrix_3 X0 X2 X1) (k4_matrix_3 X0 X3 \\
& X1)))))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((k3_finseq_1 X1 = k1_matrix_1 X2) \Rightarrow ((r1_xxreal_0 \\
& (k3_finseq_1 X2) k6_numbers) \vee ((r1_xxreal_0 (k3_finseq_1 X1) \\
& k6_numbers) \vee (k4_matrix_3 X0 (k2_matrix_3 X0 X2) X1 = k2_matrix_3 \\
& X0 (k4_matrix_3 X0 X2 X1)))))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge (\\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge (k1_matrix_1 \\
& X1 = k1_matrix_1 X2)) \Rightarrow (X1 = k1_matrix_4 X0 X1 (k1_matrix_4 X0 X2 X2))))))
\end{aligned} \tag{13}$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge \\ & ((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\wedge \\ & (((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 X0))))\wedge((v1_matrix_1 X2)\wedge(m1_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0))))))\Rightarrow((v1_matrix_1 (k4_matrix_3 X0 X1 X2))\wedge(m2_finseq_1 \\ & (k4_matrix_3 X0 X1 X2) (k3_finseq_2 (u1_struct_0 X0)))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge \\ & ((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\wedge \\ & (((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 X0))))\wedge((v1_matrix_1 X2)\wedge(m1_finseq_1 X2 (k3_finseq_2 (u1_struct_0 X0))))))\Rightarrow((v1_matrix_1 (k3_matrix_3 X0 X1 X2))\wedge(m2_finseq_1 \\ & (k3_matrix_3 X0 X1 X2) (k3_finseq_2 (u1_struct_0 X0)))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((\neg v6_struct_0 X0)\wedge \\ & ((v13_algstr_0 X0)\wedge((v33_algstr_0 X0)\wedge((v3_group_1 X0)\wedge((v5_group_1 X0)\wedge((v2_rlvect_1 X0)\wedge((v3_rlvect_1 X0)\wedge((v4_rlvect_1 X0)\wedge \\ & ((v4_vectsp_1 X0)\wedge((v5_vectsp_1 X0)\wedge(l6_algstr_0 X0))))))))))\wedge \\ & (((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 (u1_struct_0 X0))))\Rightarrow((v1_matrix_1 (k2_matrix_3 X0 X1))\wedge(m2_finseq_1 (k2_matrix_3 \\ & X0 X1) (k3_finseq_2 (u1_struct_0 X0)))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v1_matrix_1 X0))))\Rightarrow(m1_subset_1 (k1_matrix_1 X0) k5_numbers) \quad (20)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (\forall X3.((v1_matrix_1 X3) \wedge (m2_finseq_1 \\
& X3 (k3_finseq_2 (u1_struct_0 X0)))) \Rightarrow ((X3 = k3_matrix_3 X0 X1 X2) \Leftrightarrow \\
& ((k3_finseq_1 X3 = k3_finseq_1 X1) \wedge ((k1_matrix_1 X3 = k1_matrix_1 \\
& X1) \wedge (\forall X4.(v7_ordinal1 X4) \Rightarrow (\forall X5.(v7_ordinal1 X5) \Rightarrow \\
& ((k4_tarski X4 X5 \in k2_matrix_1 X1) \Rightarrow (k3_matrix_1 (u1_struct_0 \\
& X0) X3 X4 X5 = k3_rlvect_1 X0 (k3_matrix_1 (u1_struct_0 X0) X1 X4 X5) \\
& (k3_matrix_1 (u1_struct_0 X0) X2 X4 X5))))))))))
\end{aligned} \tag{21}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow ((X2 = k2_matrix_3 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = \\
& k3_finseq_1 X1) \wedge ((k1_matrix_1 X2 = k1_matrix_1 X1) \wedge (\forall X3. \\
& (v7_ordinal1 X3) \Rightarrow (\forall X4.(v7_ordinal1 X4) \Rightarrow ((k4_tarski X3 \\
& X4 \in k2_matrix_1 X1) \Rightarrow (k3_matrix_1 (u1_struct_0 X0) X2 X3 X4 = k4_algstr_0 \\
& X0 (k3_matrix_1 (u1_struct_0 X0) X1 X3 X4))))))))))
\end{aligned} \tag{22}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\
& X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\
& (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\
& X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\
& ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\
& X0)))) \Rightarrow (\forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\
& (u1_struct_0 X0)))) \Rightarrow (k1_matrix_4 X0 X1 X2 = k3_matrix_3 X0 X1 (k2_matrix_3 \\
& X0 X2)))
\end{aligned} \tag{23}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge \\ & (v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 (u1_struct_0 \\ & X0)))) \Rightarrow (\forall X2. ((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 \\ & (u1_struct_0 X0)))) \Rightarrow ((k1_matrix_1 X1 = k3_finseq_1 X2) \Rightarrow ((r1_xxreal_0 \\ & (k3_finseq_1 X1) k6_numbers) \vee ((r1_xxreal_0 (k3_finseq_1 X2) \\ & k6_numbers) \vee (k4_matrix_3 X0 X1 (k2_matrix_3 X0 X2) = k2_matrix_3 \\ & X0 (k4_matrix_3 X0 X1 X2)))))) \end{aligned}$$