

t25_matrix14 (TMZ- zCKe1VRamAc9i4bXgHRzyYeWZXbELAtZ)

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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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix14 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_finseq_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\ (\forall X2. (m1_subset_1 X2 X0) \Rightarrow (\forall X3. (v7_ordinal1 X3) \Rightarrow \\ (k3_finseq_1 (k1_finseq_7 X0 X1 X3 X2) = k3_finseq_1 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. \forall X2. (X2 \in k2_finseq_1 X0) \Rightarrow (k1_funct_1 (k2_finseq_2 X0 X1) X2 = X1)) \quad (2)$$

Assume the following.

$$\forall X0. (v7_ordinal1 X0) \Rightarrow (\forall X1. (v7_ordinal1 X1) \Rightarrow ((X0 \in k2_finseq_1 X1) \Leftrightarrow ((r1_xxreal_0 np_1 X0) \wedge (r1_xxreal_0 X0 X1)))) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.\forall X2.(m2_finseq_1 \\ & X2\ X1) \Rightarrow (((r1_xxreal_0\ np_1\ X0) \wedge (r1_xxreal_0\ X0\ (k3_finseq_1 \\ & X2))) \Rightarrow (k7_partfun1\ X1\ X2\ X0 = k1_funct_1\ X2\ X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0\ X0) \Rightarrow (\forall X1.(m2_finseq_1\ X1\ X0) \Rightarrow \\ & (\forall X2.(m1_subset_1\ X2\ X0) \Rightarrow (\forall X3.(v7_ordinal1\ X3) \Rightarrow \\ & (\forall X4.(v7_ordinal1\ X4) \Rightarrow (((r1_xxreal_0\ np_1\ X3) \wedge (r1_xxreal_0 \\ & X3\ (k3_finseq_1\ X1))) \Rightarrow ((X3 = X4) \vee (k7_partfun1\ X0\ (k1_finseq_7 \\ & X0\ X1\ X4\ X2)\ X3 = k7_partfun1\ X0\ X1\ X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0\ X0) \wedge ((v7_ordinal1 \\ & X1) \wedge (m1_subset_1\ X2\ X0))) \Rightarrow (k5_finseq_2\ X0\ X1\ X2 = k2_finseq_2\ X1 \\ & X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1\ X0) \wedge ((v1_funct_1\ X0) \wedge (v1_finseq_1\ X0))) \Rightarrow \\ & (k3_finseq_1\ X0 = k1_card_1\ X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v7_ordinal1\ X0) \Rightarrow ((v1_relat_1\ (k2_finseq_2 \\ & X0\ X1)) \wedge ((v1_funct_1\ (k2_finseq_2\ X0\ X1)) \wedge ((v3_card_1\ (k2_finseq_2 \\ & X0\ X1)\ X0) \wedge (v1_finseq_1\ (k2_finseq_2\ X0\ X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0\ X0) \wedge (l1_struct_0\ X0)) \Rightarrow (\neg v1_xboole_0 \\ & (u1_struct_0\ X0)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(m1_finseq_2\ X1\ X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ & X2\ X0\ X1) \Rightarrow (m2_finseq_1\ X2\ X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l6_algstr_0\ X0) \Rightarrow ((l2_algstr_0\ X0) \wedge (l5_algstr_0\ X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l5_algstr_0\ X0) \Rightarrow ((l4_algstr_0\ X0) \wedge (l4_struct_0\ X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l4_struct_0\ X0) \Rightarrow ((l2_struct_0\ X0) \wedge (l3_struct_0\ X0)) \quad (13)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l3_struct_0 X0) \Rightarrow (m1_subset_1 (k5_struct_0 X0) (u1_struct_0 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0) \wedge ((v7_ordinal1 X1) \wedge (m1_subset_1 X2 X0))) \Rightarrow (m2_finseq_2 (k5_finseq_2 X0 X1 X2) X0 (k4_finseq_2 X1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (m1_subset_1 (k4_struct_0 X0) (u1_struct_0 X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(v7_ordinal1 X0) \Rightarrow (m1_finseq_2 (k4_finseq_2 X0 X1) X1) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \wedge ((v7_ordinal1 X1) \wedge (v7_ordinal1 X2))) \Rightarrow (m2_finseq_1 (k3_matrix14 X0 X1 X2) (u1_struct_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1 X1 X0) \Leftrightarrow (k1_card_1 X1 = X0) \quad (21)$$

Assume the following.

$$\forall X0.(((\neg v2_struct_0 X0) \wedge ((\neg v6_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2.(v7_ordinal1 X2) \Rightarrow (k3_matrix14 X0 X1 X2 = k1_finseq_7 (u1_struct_0 X0) (k5_finseq_2 (u1_struct_0 X0) X1 (k4_struct_0 X0)) X2 (k5_struct_0 X0)))))) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (\neg v6_struct_0 X0) \wedge ((v13_algstr_0 \\ & X0) \wedge ((v33_algstr_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 X0) \wedge \\ & ((v4_rlvect_1 X0) \wedge ((v3_group_1 X0) \wedge ((v5_group_1 X0) \wedge ((v4_vectsp_1 \\ & X0) \wedge ((v5_vectsp_1 X0) \wedge (l6_algstr_0 X0)))))))))) \Rightarrow (\forall X1. \\ & (v7_ordinal1 X1) \Rightarrow (\forall X2. (v7_ordinal1 X2) \Rightarrow (\forall X3. (\\ & v7_ordinal1 X3) \Rightarrow (((r1_xxreal_0 np_1 X2) \wedge (r1_xxreal_0 X2 X3)) \Rightarrow \\ & ((X1 = X2) \vee (k1_funct_1 (k3_matrix14 X0 X3 X1) X2 = k4_struct_0 X0)))))) \end{aligned}$$