

t47_matrix13

(TMWHSQrcX97qdezvfGKbb9sWYuRhQSh8sbi)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. 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 $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_setfam_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_matrix13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_matrix13 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_matrix13 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k14_finseq_1 : \iota \Rightarrow \iota$ 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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\\
 & \quad \forall X2.(v7_ordinal1 X2) \Rightarrow (\forall X3.(v7_ordinal1 X3) \Rightarrow (\forall X4. \\
 & \quad \quad ((v1_matrix_1 X4) \wedge (m2_finseq_1 X4 (k3_finseq_2 X0)))) \Rightarrow (\forall X5. \\
 & \quad \quad (m2_finseq_2 X5 k5_numbers (k4_finseq_2 X3 k5_numbers)) \Rightarrow (\forall X6. \\
 & \quad \quad (m2_finseq_2 X6 k5_numbers (k4_finseq_2 X1 k5_numbers)) \Rightarrow (((X2 \in \\
 & \quad \quad k2_finseq_1 X3) \wedge (r1_tarski (k10_xtuple_0 X6) (k2_finseq_1 (k1_matrix_1 \\
 & \quad \quad X4)))) \Rightarrow (k8_matrix_1 X0 (k1_matrix13 X0 X4 X3 X1 X5 X6) X2 = k1_partfun1 \\
 & \quad \quad k5_numbers k5_numbers k5_numbers X0 X6 (k8_matrix_1 X0 X4 (k1_funct_1 \\
 & \quad \quad X5 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{2}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{3}$$

Assume the following.

$$\forall X0.((v1_finset_1 X0) \wedge ((v1_setfam_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k5_numbers)))) \Rightarrow (k5_matrix13 X0 = k14_finseq_1 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (v1_funct_1 X1) \wedge (v1_finseq_1 X1)) \quad (5)$$

Assume the following.

$$\forall X0.((v1_finset_1 X0) \wedge ((v1_setfam_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k5_numbers)))) \Rightarrow (m2_finseq_2 (k5_matrix13 X0) k5_numbers (k4_finseq_2 (k5_card_1 X0) k5_numbers)) \quad (6)$$

Assume the following.

$$\forall X0. (v1_finset_1 X0) \Rightarrow (m1_subset_1 (k5_card_1 X0) k4_ordinal1) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 X0) \wedge (v1_matrix_1 X0)))) \Rightarrow (m1_subset_1 (k1_matrix_1 X0) k5_numbers) \quad (8)$$

Assume the following.

$$\forall X0. m2_finseq_1 (k14_finseq_1 X0) k5_numbers \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((v1_matrix_1 X1) \wedge (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow (\forall X2. ((v1_finset_1 X2) \wedge ((v1_setfam_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k5_numbers)))) \Rightarrow \\ (\forall X3. ((v1_finset_1 X3) \wedge ((v1_setfam_1 X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 k5_numbers)))) \Rightarrow (k6_matrix13 X0 X1 X2 X3 = k1_matrix13 X0 X1 (k5_card_1 X2) (k5_card_1 X3) (k5_matrix13 X2) (k5_matrix13 X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (\exists X1. (v7_ordinal1 X1) \wedge (r1_tarski X0 (k2_finseq_1 X1))) \Rightarrow (\forall X1. (m2_finseq_1 X1 k5_numbers) \Rightarrow ((X1 = k14_finseq_1 X0) \Leftrightarrow ((k10_xtuple_0 X1 = X0) \wedge (\forall X2. (v7_ordinal1 X2) \Rightarrow (\forall X3. (v7_ordinal1 X3) \Rightarrow (\forall X4. (v7_ordinal1 X4) \Rightarrow (\forall X5. (v7_ordinal1 X5) \Rightarrow (\neg (r1_xxreal_0 np_1 X2) \wedge ((\neg r1_xxreal_0 X3 X2) \wedge ((r1_xxreal_0 X3 (k3_finseq_1 X1)) \wedge ((X4 = k1_funct_1 X1 X2) \wedge ((X5 = k1_funct_1 X1 X3) \wedge (r1_xxreal_0 X5 X4)))))))))))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (12)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\\ & \forall X2.((v1_matrix_1 X2) \wedge (m2_finseq_1 X2 (k3_finseq_2 X0))) \Rightarrow \\ & (\forall X3.((v1_finset_1 X3) \wedge ((v1_setfam_1 X3) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 k5_numbers)))))) \Rightarrow (\forall X4.((v1_finset_1 X4) \wedge \\ & ((v1_setfam_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 k5_numbers)))))) \Rightarrow \\ & (((X1 \in k2_finseq_1 (k5_card_1 X3)) \wedge (r1_tarski X4 (k2_finseq_1 \\ & (k1_matrix_1 X2)))) \Rightarrow (k8_matrix_1 X0 (k6_matrix13 X0 X2 X3 X4) X1 = \\ & k1_partfun1 k5_numbers k5_numbers k5_numbers X0 (k5_matrix13 \\ & X4) (k8_matrix_1 X0 X2 (k1_funct_1 (k5_matrix13 X3) X1)))))) \end{aligned}$$