

t69_matrix13

(TMc3J7M18aZwjctF5kk9Qwd2BqTSaceoGTW)

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Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $v1_finset_1 : \iota \Rightarrow o$ 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 $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k4_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ 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 $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k1_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (k2_zfmisc_1 X0 X1 = k1_xboole_0) \Leftrightarrow ((X0 = k1_xboole_0) \vee (X1 = k1_xboole_0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (v1_xboole_0 X0) \wedge ((X0 \neq X1) \wedge (v1_xboole_0 X1)) \quad (2)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\ (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow (\forall X2.((v1_finset_1 \\ X2) \wedge ((v1_setfam_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k5_numbers)))) \Rightarrow \\ (\forall X3.((v1_finset_1 X3) \wedge ((v1_setfam_1 X3) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 k5_numbers)))) \Rightarrow ((k5_card_1 X2 = k5_card_1 X3) \Rightarrow \\ ((r1_tarski (k2_zfmisc_1 X2 X3) (k2_matrix_1 X1)) \Leftrightarrow ((r1_tarski \\ X2 (k2_finseq_1 (k3_finseq_1 X1))) \wedge (r1_tarski X3 (k2_finseq_1 \\ (k1_matrix_1 X1)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. r1_tarski k1_xboole_0 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\ (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow ((\neg r1_xxreal_0 (k1_matrix_1 \\ X1) k6_numbers) \Rightarrow ((k3_finseq_1 (k4_matrix_1 X0 X1) = k1_matrix_1 \\ X1) \wedge (k1_matrix_1 (k4_matrix_1 X0 X1) = k3_finseq_1 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2. (m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (9)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (12)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(k2_finseq_1\ X0 = k1_finseq_1\ X0) \quad (13)$$

Assume the following.

$$(\neg v1_xboole_0\ k4_ordinal1)\wedge(v3_ordinal1\ k4_ordinal1) \quad (14)$$

Assume the following.

$$\forall X0.(v1_finset_1\ X0)\Rightarrow((v1_finset_1\ (k1_card_1\ X0))\wedge(v1_card_1\ (k1_card_1\ X0))) \quad (15)$$

Assume the following.

$$v1_xboole_0\ k1_xboole_0 \quad (16)$$

Assume the following.

$$\forall X0.((v7_ordinal1\ X0)\wedge(v1_xboole_0\ X0))\Rightarrow(v1_xboole_0\ (k1_finseq_1\ X0)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1\ X1\ X0)\Rightarrow((v1_funct_1\ X1)\wedge(v1_finseq_1\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ k5_numbers\ X0)))) \quad (18)$$

Assume the following.

$$m1_subset_1\ k5_numbers\ (k1_zfmisc_1\ k1_numbers) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0\ X0)\wedge((v1_matrix_1\ X1)\wedge(m1_finseq_1\ X1\ (k3_finseq_2\ X0))))\Rightarrow((v1_matrix_1\ (k4_matrix_1\ X0\ X1))\wedge(m2_finseq_1\ (k4_matrix_1\ X0\ X1)\ (k3_finseq_2\ X0))) \quad (20)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow(m2_subset_1\ (k3_finseq_1\ X0)\ k1_numbers\ k5_numbers) \quad (21)$$

Assume the following.

$$\forall X0.v1_card_1\ (k1_card_1\ X0) \quad (22)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0\ X0)\Rightarrow(\forall X1.((v1_matrix_1\ X1)\wedge \\ & (m2_finseq_1\ X1\ (k3_finseq_2\ X0)))\Rightarrow(\forall X2.((v1_matrix_1\ X2)\wedge(m2_finseq_1\ X2\ (k3_finseq_2\ X0)))\Rightarrow((X2 = k4_matrix_1\ X0\ X1)\Leftrightarrow \\ & ((k3_finseq_1\ X2 = k1_matrix_1\ X1)\wedge((\forall X3.(v7_ordinal1\ X3)\Rightarrow(\forall X4.(v7_ordinal1\ X4)\Rightarrow((k4_tarski\ X3\ X4 \in k2_matrix_1\ X2)\Leftrightarrow(k4_tarski\ X4\ X3 \in k2_matrix_1\ X1))))\wedge(\forall X3.(v7_ordinal1\ X3)\Rightarrow(\forall X4.(v7_ordinal1\ X4)\Rightarrow((k4_tarski\ X4\ X3 \in k2_matrix_1\ X1)\Rightarrow(k3_matrix_1\ X0\ X2\ X3\ X4 = k3_matrix_1\ X0\ X1\ X4\ X3)))))))))) \end{aligned} \quad (23)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (v7_ordinal1 X0) \quad (24)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (25)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0) \wedge (v2_xxreal_0 X0)) \Rightarrow ((\neg v1_xboole_0 X0) \wedge ((v1_xxreal_0 X0) \wedge (\neg v3_xxreal_0 X0))) \quad (26)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xxreal_0 X0) \quad (27)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (v1_xreal_0 X0) \quad (28)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\neg v3_xxreal_0 X0) \quad (29)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finset_1 X0))) \quad (30)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (31)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (32)$$

Assume the following.

$$\forall X0.(v1_card_1 X0) \Rightarrow (v3_ordinal1 X0) \quad (33)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((v1_matrix_1 X1) \wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 X0))) \Rightarrow (\forall X2.((v1_finset_1 \\ X2) \wedge ((v1_setfam_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 k5_numbers)))) \Rightarrow \\ & (\forall X3.((v1_finset_1 X3) \wedge ((v1_setfam_1 X3) \wedge (m1_subset_1 \\ X3 (k1_zfmisc_1 k5_numbers)))) \Rightarrow ((k5_card_1 X2 = k5_card_1 X3) \Rightarrow \\ & ((r1_tarski (k2_zfmisc_1 X2 X3) (k2_matrix_1 X1)) \Leftrightarrow (r1_tarski \\ & (k2_zfmisc_1 X3 X2) (k2_matrix_1 (k4_matrix_1 X0 X1)))))) \end{aligned}$$