

t12_matrix_1

(TMZj4iw5os3DtDunQLfvH6CS8RWNAaGe9uU)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ 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 $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \Rightarrow (\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow (((k3_finseq_1 X1 = X0) \wedge (k3_finseq_1 X2 = X0)) \Rightarrow (v1_matrix_1 (k10_finseq_1 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2))) \Rightarrow ((X2 = k10_finseq_1 X0 X1) \Leftrightarrow ((k3_finseq_1 X2 = np_2) \wedge ((k1_funct_1 X2 np_1 = X0) \wedge (k1_funct_1 X2 np_2 = X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (\forall X2.(m1_subset_1 X2 X0) \Rightarrow (m2_finseq_1 (k10_finseq_1 X1 X2) X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.k10_xtuple_0 (k10_finseq_1 X0 X1) = k2_tarski X0 X1 \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 \ X1 \ X0) \Leftrightarrow (m1_finseq_1 \ X1 \ X0) \quad (7)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0. k3_finseq_2 \ X0 = k13_finseq_1 \ X0 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (v1_relat_1 \ (k10_finseq_1 \ X0 \ X1)) \wedge (v1_funct_1 \ (k10_finseq_1 \ X0 \ X1)) \quad (10)$$

Assume the following.

$$\forall X0. \neg v1_xboole_0 \ (k13_finseq_1 \ X0) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. v1_finseq_1 \ (k10_finseq_1 \ X0 \ X1) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. (m1_finseq_1 \ X1 \ X0) \Rightarrow ((v1_relat_1 \ X1) \wedge (v1_funct_1 \ X1) \wedge (v1_finseq_1 \ X1)) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 = k2_tarski \ X0 \ X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 \ X0) \Rightarrow (\forall X1. (v7_ordinal1 \ X1) \Rightarrow (\\ & \forall X2. (v7_ordinal1 \ X2) \Rightarrow (\forall X3. ((v1_matrix_1 \ X3) \wedge (\\ & m2_finseq_1 \ X3 \ (k3_finseq_2 \ X0)) \Rightarrow ((m1_matrix_1 \ X3 \ X0 \ X1 \ X2) \Leftrightarrow (\\ & (k3_finseq_1 \ X3 = X1) \wedge (\forall X4. (m2_finseq_1 \ X4 \ X0) \Rightarrow ((X4 \in k10_xtuple_0 \\ & X3) \Rightarrow (k3_finseq_1 \ X4 = X2)))))))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k13_finseq_1 \ X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (m2_finseq_1 \ X2 \ X0)) \quad (16)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ k4_ordinal1) \Rightarrow (v7_ordinal1 \ X0) \quad (17)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(\neg v1_xboole_0\ X1) \Rightarrow (\\ & \quad \forall X2.(m2_finseq_1\ X2\ X1) \Rightarrow (\forall X3.(m2_finseq_1\ X3\ X1) \Rightarrow \\ & \quad ((k3_finseq_1\ X2 = X0) \wedge (k3_finseq_1\ X3 = X0)) \Rightarrow (m1_matrix_1\ (k10_finseq_1 \\ & \quad \quad X2\ X3)\ X1\ np_2\ X0)))) \end{aligned}$$