

t38_matrix11 (TM- MAS6Wv969P7ATGRuk5h4vz9W6DrGUS5Au)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_matrix11 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(v7_ordinal1 X1) \Rightarrow (\forall X2. \\ & (\neg v1_xboole_0 X2) \Rightarrow (\forall X3.(m1_matrix_1 X3 X2 X0 X1) \Rightarrow (\forall X4. \\ & (v7_ordinal1 X4) \Rightarrow ((X4 \in k2_finseq_1 X0) \Rightarrow (k1_funct_1 X3 X4 = k8_matrix_1 \\ & X2 X3 X4)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow (\forall X2. \\ & ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in k9_xtuple_0 (k3_relat_1 \\ & X2 X1)) \Rightarrow (k1_funct_1 (k3_relat_1 X2 X1) X0 = k1_funct_1 X1 (k1_funct_1 \\ & X2 X0)))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7_ordinal1 \\ & X0) \wedge ((v7_ordinal1 X1) \wedge ((\neg v1_xboole_0 X2) \wedge (((v1_funct_1 X3) \wedge \\ & ((v1_funct_2 X3 (k2_finseq_1 X0) (k2_finseq_1 X0)) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_finseq_1 X0) (k2_finseq_1 X0)))))) \wedge \\ & (m1_matrix_1 X4 X2 X0 X1)))))) \Rightarrow (k4_matrix11 X0 X1 X2 X3 X4 = k3_relat_1 \\ & X3 X4) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v7_ordinal1 X1)\wedge(v7_ordinal1 X2)))\Rightarrow(\forall X3.(m1_matrix_1 X3 X0 X1 X2)\Rightarrow((v1_matrix_1 X3)\wedge(m2_finseq_1 X3 (k3_finseq_2 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7_ordinal1 X0)\wedge((v7_ordinal1 X1)\wedge((\neg v1_xboole_0 X2)\wedge(((v1_funct_1 X3)\wedge((v1_funct_2 X3 (k2_finseq_1 X0) (k2_finseq_1 X0))\wedge(m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k2_finseq_1 X0) (k2_finseq_1 X0))))))\wedge(m1_matrix_1 X4 X2 X0 X1))))))\Rightarrow(m1_matrix_1 (k4_matrix11 X0 X1 X2 X3 X4) X2 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.v1_relat_1 (k3_relat_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers)\Rightarrow((X1 = k3_finseq_1 X0)\Leftrightarrow(k2_finseq_1 X1 = k9_xtuple_0 X0))) \quad (9)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow(\forall X3.((v1_matrix_1 X3)\wedge(m2_finseq_1 X3 (k3_finseq_2 X0))\Rightarrow((m1_matrix_1 X3 X0 X1 X2)\Leftrightarrow(k3_finseq_1 X3 = X1)\wedge(\forall X4.(m2_finseq_1 X4 X0)\Rightarrow((X4 \in k10_xtuple_0 X3)\Rightarrow(k3_finseq_1 X4 = X2)))))))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (\neg v1_xboole_0\ X2) \Rightarrow (\forall X3.(m1_matrix_1\ X3\ X2\ X0\ X1) \Rightarrow (\forall X4. \\ & ((v1_funct_1\ X4) \wedge ((v1_funct_2\ X4\ (k2_finseq_1\ X0)\ (k2_finseq_1 \\ & X0)) \wedge (m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_finseq_1 \\ & X0)\ (k2_finseq_1\ X0)))))) \Rightarrow (\forall X5.(v7_ordinal1\ X5) \Rightarrow ((X5 \in \\ & k2_finseq_1\ X0) \Rightarrow (k8_matrix_1\ X2\ (k4_matrix11\ X0\ X1\ X2\ X4\ X3)\ X5 = \\ & k1_funct_1\ X3\ (k1_funct_1\ X4\ X5)))))) \end{aligned}$$