

t46_matrixj1 (TMLpm- npZ2ZA2iaLFTVCgtDPoRGUbEEErpUiw)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_matrixj1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k10_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m1_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k2_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_matrixj1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_matrixj1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v7_ordinal1 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow (\\ \forall X2.(m1_matrix_1 X2 X1 X0 X0) \Rightarrow ((k3_finseq_1 X2 = X0) \wedge ((k1_matrix_1 \\ X2 = X0) \wedge (k2_matrix_1 X2 = k2_zfmisc_1 (k2_finseq_1 X0) (k2_finseq_1 \\ X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\ (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$k5_numbers = k4_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v1_matrixj1 X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(k2_matrixj1 X0 X1 X2 = k1_funct_1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v2_matrixj1 X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(k14_matrixj1 X0 X1 X2 = k1_funct_1 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_matrixj1 X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(k11_matrixj1 X0 X1 = k9_matrixj1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_matrixj1 X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(k10_matrixj1 X0 X1 = k8_matrixj1 X0 X1) \quad (8)$$

Assume the following.

$$\neg v1_finset_1 k4_ordinal1 \quad (9)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((v1_matrixj1 X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(m2_finseq_1 (k9_matrixj1 X0 X1) k5_numbers) \quad (12)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_finseq_1 X0)))\Rightarrow(m2_subset_1 (k3_finseq_1 X0) k1_numbers k5_numbers) \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v1_matrixj1 \\ & X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow((v1_matrix_1 \\ & (k2_matrixj1 X0 X1 X2))\wedge(m2_finseq_1 (k2_matrixj1 X0 X1 X2) (k3_finseq_2 \\ & X0))) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v2_matrixj1 \\ & X1 X0)\wedge(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))))\Rightarrow(m1_matrix_1 \\ & (k14_matrixj1 X0 X1 X2) X0 (k3_finseq_1 (k2_matrixj1 X0 X1 X2) (\\ & k3_finseq_1 (k2_matrixj1 X0 X1 X2))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_matrixj1 X1 X0)\wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0)))))\Rightarrow(\forall X2. \\ & (m2_finseq_1 X2 k5_numbers)\Rightarrow((X2 = k9_matrixj1 X0 X1)\Leftrightarrow((k4_finseq_1 \\ & X2 = k4_finseq_1 X1)\wedge(\forall X3.(v7_ordinal1 X3)\Rightarrow((X3 \in k4_finseq_1 \\ & X2)\Rightarrow(k1_funct_1 X2 X3 = k1_matrix_1 (k2_matrixj1 X0 X1 X3)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_matrixj1 X1 X0)\wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0)))))\Rightarrow(\forall X2. \\ & (m2_finseq_1 X2 k5_numbers)\Rightarrow((X2 = k8_matrixj1 X0 X1)\Leftrightarrow((k4_finseq_1 \\ & X2 = k4_finseq_1 X1)\wedge(\forall X3.(v7_ordinal1 X3)\Rightarrow((X3 \in k4_finseq_1 \\ & X2)\Rightarrow(k1_funct_1 X2 X3 = k3_finseq_1 (k2_matrixj1 X0 X1 X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0.(v1_finset_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v1_finset_1 X1)) \quad (20)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.(m1_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0)))\Rightarrow((v2_matrixj1 X1 X0)\Rightarrow(v1_matrixj1 X1 X0))) \quad (21)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0)\Rightarrow(v1_finset_1 X0) \quad (22)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v2_matrixj1 X1 X0)\wedge \\ & (m2_finseq_1 X1 (k3_finseq_2 (k3_finseq_2 X0))))\Rightarrow(k10_matrixj1 \\ & X0 X1 = k11_matrixj1 X0 X1)) \end{aligned}$$