

t51_matrprob (TMHWUUmLEaXcnqLrX- FULM1agnDj4452rErM)

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Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_matrix_1 : \iota \Rightarrow o$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix_1 : \iota \Rightarrow \iota$ be given. Let $k5_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $np_1 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k11_matrixr1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k18_rvsum_1 : \iota \Rightarrow \iota$ be given. Let $k8_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k22_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k6_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_matrix_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1_matrix_1 X0) \wedge (m2_finseq_1 X0 (k3_finseq_2 k1_numbers))) \Rightarrow \\
& (\forall X1.(m2_finseq_1 X1 k1_numbers) \Rightarrow ((k1_matrix_1 X0 = k3_finseq_1 \\
& \quad X1) \Rightarrow ((r1_xxreal_0 (k1_matrix_1 X0) k6_numbers) \vee (\forall X2. \\
& \quad (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow ((X2 \in k2_finseq_1 (k3_finseq_1 \\
& \quad (k11_matrixr1 X0 X1))) \Rightarrow (k1_seq_1 (k11_matrixr1 X0 X1) X2 = k22_rvsum_1 \\
& \quad (k8_matrix_1 k1_numbers X0 X2) X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(m2_finseq_1 X0 k1_numbers) \Rightarrow (k14_rvsum_1 (k5_finseq_2 k5_numbers (k3_finseq_1 X0) np_1) X0 = X0) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge ((\neg v1_xboole_0 X1) \wedge \\
& (m1_subset_1 X1 (k1_zfmisc_1 X0)))) \Rightarrow (\forall X2.(m2_subset_1 \\
& \quad X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_matrix_1 \\ X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0)))\wedge(v7_ordinal1 X2)))\Rightarrow(\\ k8_matrix_1 X0 X1 X2 = k6_matrix_1 X0 X1 X2) \end{aligned} \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$(\neg v1_xboole_0 k4_ordinal1)\wedge(v3_ordinal1 k4_ordinal1) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge \\ (v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((v1_matrix_1 \\ X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0)))\wedge(v7_ordinal1 X2)))\Rightarrow(\\ m2_finseq_1 (k6_matrix_1 X0 X1 X2) X0) \end{aligned} \quad (10)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_matrix_1 X1)\wedge \\ (m2_finseq_1 X1 (k3_finseq_2 X0)))\Rightarrow(\forall X2.(v7_ordinal1 \\ X2)\Rightarrow(\forall X3.(m2_finseq_1 X3 X0)\Rightarrow((X3 = k6_matrix_1 X0 X1 X2)\Leftrightarrow \\ ((k3_finseq_1 X3 = k1_matrix_1 X1)\wedge(\forall X4.(v7_ordinal1 X4)\Rightarrow \\ ((X4 \in k2_finseq_1 (k1_matrix_1 X1))\Rightarrow(k1_funct_1 X3 X4 = k3_matrix_1 \\ X0 X1 X2 X4)))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v3_valued_0 \\ X0)\wedge(v1_finseq_1 X0))))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 \\ X1)\wedge((v3_valued_0 X1)\wedge(v1_finseq_1 X1))))\Rightarrow(k22_rsum_1 X0 X1 = \\ k18_rsum_1 (k14_rsum_1 X0 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge(v1_funct_1 X0)\wedge(v3_valued_0 X0)\wedge(v1_finseq_1 X0)))\wedge((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v3_valued_0 X1)\wedge(v1_finseq_1 X1)))\Rightarrow(k14_rvsum_1 X0 X1 = k14_rvsum_1 X1 X0) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1)\Rightarrow(v7_ordinal1 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow(v5_relat_1 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v5_relat_1 X0 k1_numbers))\Rightarrow((v1_relat_1 X0)\wedge(v3_valued_0 X0)) \quad (17)$$

Theorem 1

$$\forall X0.(m2_finseq_1 X0 k1_numbers)\Rightarrow(\forall X1.((v1_matrix_1 X1)\wedge(m2_finseq_1 X1 (k3_finseq_2 k1_numbers))\Rightarrow(((k3_finseq_1 X0 = k1_matrix_1 X1)\wedge(X0 = k5_finseq_2 k5_numbers (k3_finseq_1 X0) np_1))\Rightarrow((r1_xxreal_0 (k1_matrix_1 X1) k6_numbers)\vee(\forall X2.(m2_subset_1 X2 k1_numbers k5_numbers)\Rightarrow((X2 \in k2_finseq_1 (k3_finseq_1 (k11_matrixr1 X1 X0)))\Rightarrow(k1_seq_1 (k11_matrixr1 X1 X0) X2 = k18_rvsum_1 (k8_matrix_1 k1_numbers X1 X2))))))))))$$