

t18_laplace
(TML25BT9XLrTovd4WfqKpPLWveGJXf3o3GW)

October 27, 2020

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 $k3_laplace : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_matrix.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_matrix.1 : \iota \Rightarrow o$ be given. Let $k3_finseq.2 : \iota \Rightarrow \iota$ be given. Let $k7_matrix.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v1_finseq.1 : \iota \Rightarrow o$ 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 $v1_relat.1 : \iota \Rightarrow o$ be given. Let $k3_finseq.1 : \iota \Rightarrow \iota$ be given. Let $k4_finseq.1 : \iota \Rightarrow \iota$ 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 $k2_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $k2_matrix.1 : \iota \Rightarrow \iota$ be given. Let $k2_finseq.1 : \iota \Rightarrow \iota$ be given. Let $k1_matrix.1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(k4_tarski X0 X1 \in k2_zfmisc.1 X2 X3) \Leftrightarrow ((X0 \in X2) \wedge (X1 \in X3)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq.1 X1 X0) \Leftrightarrow (m1_finseq.1 X1 X0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole.0 X0) \wedge (((v1_matrix.1 X1) \wedge (m1_finseq.1 X1 (k3_finseq.2 X0))) \wedge (v7_ordinal1 X2))) \Rightarrow (k9_matrix.1 X0 X1 X2 = k7_matrix.1 X0 X1 X2) \quad (3)$$

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.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(v1_funct_1 X1)\wedge(v1_finseq_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge((v1_matrix_1 X1)\wedge(m1_finseq_1 X1 (k3_finseq_2 X0))\wedge(v7_ordinal1 X2)))\Rightarrow(m2_finseq_1 (k7_matrix_1 X0 X1 X2) X0) \quad (7)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0)\Rightarrow(\forall X1.((v1_matrix_1 X1)\wedge(m2_finseq_1 X1 (k3_finseq_2 X0)))\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow(\forall X3.(m2_finseq_1 X3 X0)\Rightarrow((X3 = k7_matrix_1 X0 X1 X2)\Leftrightarrow((k3_finseq_1 X3 = k3_finseq_1 X1)\wedge(\forall X4.(v7_ordinal1 X4)\Rightarrow((X4 \in k4_finseq_1 X1)\Rightarrow(k1_funct_1 X3 X4 = k3_matrix_1 X0 X1 X4 X2)))))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k4_tarski X0 X1 = k2_tarski (k2_tarski X0 X1) (k1_tarski X0) \quad (9)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v1_matrix_1 X0))))\Rightarrow(k2_matrix_1 X0 = k2_zfmisc_1 (k4_finseq_1 X0) (k2_finseq_1 (k1_matrix_1 X0))) \quad (10)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(v7_ordinal1 X1)\Rightarrow(\forall X2.(v7_ordinal1 X2)\Rightarrow(\forall X3.(\neg v1_xboole_0 X3)\Rightarrow(\forall X4.(m1_matrix_1 X4 X3 X1 X2)\Rightarrow(\forall X5.(m2_finseq_1 X5 X3)\Rightarrow(\forall X6.(m1_matrix_1 X6 X3 X1 X2)\Rightarrow(((k3_finseq_1 X5 = k3_finseq_1 X4)\Rightarrow((X6 = k3_laplace X0 X1 X2 X3 X4 X5)\Leftrightarrow((k3_finseq_1 X6 = k3_finseq_1 X4)\wedge((k1_matrix_1 X6 = k1_matrix_1 X4)\wedge(\forall X7.(v7_ordinal1 X7)\Rightarrow(\forall X8.(v7_ordinal1 X8)\Rightarrow((k4_tarski X7 X8 \in k2_matrix_1 X4)\Rightarrow(((X8 \neq X0)\Rightarrow(k3_matrix_1 X3 X6 X7 X8 = k3_matrix_1 X3 X4 X7 X8))\wedge((X8 = X0)\Rightarrow(k3_matrix_1 X3 X6 X7 X0 = k1_funct_1 X5 X7))))))))))\wedge((k3_finseq_1 X5 \neq k3_finseq_1 X4)\Rightarrow((X6 = k3_laplace X0 X1 X2 X3 X4 X5)\Leftrightarrow(X6 = X4)))))))))) \quad (11)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.(v7_ordinal1\ X1) \Rightarrow (\forall X2. \\ & \quad (v7_ordinal1\ X2) \Rightarrow (\forall X3. (\neg v1_xboole_0\ X3) \Rightarrow (\forall X4. \\ & (m1_matrix_1\ X4\ X3\ X0\ X1) \Rightarrow (k3_laplace\ X2\ X0\ X1\ X3\ X4\ (k9_matrix_1 \\ & \quad X3\ X4\ X2) = X4)))))) \end{aligned}$$