

t8_cayley
(TMWawbM7vhJNJxCppR8fvkhzt38NFxYRaQ)

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Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $k2_cayley : \iota \Rightarrow \iota$ be given. Let $k2_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k13_matrix_2 : \iota \Rightarrow \iota$ be given. Let $k1_cayley : \iota \Rightarrow \iota$ be given. Let $k12_matrix_2 : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v3_matrix_2 : \iota \Rightarrow o$ be given. Let $m1_matrix_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_monoid_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k11_matrix_2 : \iota \Rightarrow \iota$ be given. Let $v3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (k1_cayley (k2_finseq_1 X0) = k12_matrix_2 X0) \quad (1)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v3_matrix_2 X0)) \Rightarrow (\forall X1. (m1_matrix_2 X1 X0) \Leftrightarrow (m1_subset_1 X1 X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((m1_subset_1 X2 X0) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5) \quad (4)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v15_algstr_0\ (k13_matrix_2\ X0))\wedge (v1_monoid_0\ (k13_matrix_2\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((\neg v1_xboole_0\ (k12_matrix_2\ X0))\wedge (v3_matrix_2\ (k12_matrix_2\ X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0\ X0)\Rightarrow&((v1_funct_1\ (u2_algstr_0\ X0))\wedge \\ &((v1_funct_2\ (u2_algstr_0\ X0)\ (k2_zfmisc_1\ (u1_struct_0\ X0))\ (\\ &u1_struct_0\ X0))\ (u1_struct_0\ X0))\wedge(m1_subset_1\ (u2_algstr_0 \\ &X0)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ &u1_struct_0\ X0))\ (u1_struct_0\ X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1_xboole_0\ X0)\wedge(v3_matrix_2\ X0))\Rightarrow&(\forall X1. \\ (m1_matrix_2\ X1\ X0)\Rightarrow&((v1_funct_1\ X1)\wedge((v1_funct_2\ X1\ (k2_finseq_1 \\ (k11_matrix_2\ X0))\ (k2_finseq_1\ (k11_matrix_2\ X0)))\wedge((v3_funct_2 \\ X1\ (k2_finseq_1\ (k11_matrix_2\ X0))\ (k2_finseq_1\ (k11_matrix_2 \\ X0)))\wedge(m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_finseq_1 \\ (k11_matrix_2\ X0))\ (k2_finseq_1\ (k11_matrix_2\ X0)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow((v15_algstr_0\ (k13_matrix_2\ X0))\wedge (l3_algstr_0\ (k13_matrix_2\ X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v15_algstr_0\ X1)\wedge((v1_monoid_0\ X1)\wedge \\ (l3_algstr_0\ X1)))\Rightarrow&((X1 = k2_cayley\ X0)\Leftrightarrow((u1_struct_0\ X1 = k1_cayley \\ X0)\wedge(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X1))\Rightarrow(\forall X3. \\ (m1_subset_1\ X3\ (u1_struct_0\ X1))\Rightarrow(k6_algstr_0\ X1\ X2\ X3 = k3_relat_1 \\ X2\ X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0\ X0)\Rightarrow&(\forall X1.(m1_subset_1\ X1\ (u1_struct_0 \\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(k6_algstr_0 \\ X0\ X1\ X2 = k5_binop_1\ (u1_struct_0\ X0)\ (u2_algstr_0\ X0)\ X1\ X2))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v7_ordinal1\ X0) \Rightarrow (\forall X1.((v15_algstr_0\ X1) \wedge \\
& (l3_algstr_0\ X1)) \Rightarrow ((X1 = k13_matrix_2\ X0) \Leftrightarrow ((u1_struct_0\ X1 = k12_matrix_2 \\
& X0) \wedge (\forall X2.(m1_matrix_2\ X2\ (k12_matrix_2\ X0)) \Rightarrow (\forall X3. \\
& (m1_matrix_2\ X3\ (k12_matrix_2\ X0)) \Rightarrow (k1_binop_1\ (u2_algstr_0 \\
& X1)\ X2\ X3 = k1_partfun1\ (k2_finseq_1\ (k11_matrix_2\ (k12_matrix_2 \\
& X0)))\ (k2_finseq_1\ (k11_matrix_2\ (k12_matrix_2\ X0)))\ (k2_finseq_1 \\
& (k11_matrix_2\ (k12_matrix_2\ X0)))\ (k2_finseq_1\ (k11_matrix_2 \\
& (k12_matrix_2\ X0)))\ X2\ X3))))))
\end{aligned} \tag{12}$$

Theorem 1

$$\forall X0.(v7_ordinal1\ X0) \Rightarrow (k2_cayley\ (k2_finseq_1\ X0) = k13_matrix_2\ X0)$$