

t12_polyalg1

(TMKT9KrLmwTDtnTBu2PbQL2RBNibaapBUwZ)

October 27, 2020

Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_polyalg1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_polyalg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $l1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_vectsp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_algstr_0 : \iota \Rightarrow \iota$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l5_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l4_struct_0 : \iota \Rightarrow o$ be given. Let $l3_struct_0 : \iota \Rightarrow o$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $k5_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((r1_tarski X0 X1) \wedge (r1_tarski X2 X3)) \Rightarrow (r1_tarski (k2_zfmisc_1 X0 X2) (k2_zfmisc_1 X1 X3)) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((r1_tarski X0 X1) \Rightarrow ((k5_relat_1 (k5_relat_1 X2 X0) X1 = k5_relat_1 X2 X0) \wedge (k5_relat_1 (k5_relat_1 X2 X1) X0 = k5_relat_1 X2 X0))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.r1_tarski X0 X0 \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0)\Rightarrow((v1_funct_1 (u2_algstr_0 X0))\wedge ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (u2_algstr_0 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1_struct_0 X0)\wedge(l1_vectsp_1 X1 X0))\Rightarrow ((v1_funct_1 (u1_vectsp_1 X0 X1))\wedge((v1_funct_2 (u1_vectsp_1 X0 X1) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 X1))\wedge(m1_subset_1 (u1_vectsp_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 X1)))))) \quad (7)$$

Assume the following.

$$\forall X0.(l1_algstr_0 X0)\Rightarrow((v1_funct_1 (u1_algstr_0 X0))\wedge ((v1_funct_2 (u1_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0))\wedge(m1_subset_1 (u1_algstr_0 X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.(l6_algstr_0 X0)\Rightarrow((l2_algstr_0 X0)\wedge(l5_algstr_0 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l5_algstr_0 X0)\Rightarrow((l4_algstr_0 X0)\wedge(l4_struct_0 X0)) \quad (10)$$

Assume the following.

$$\forall X0.(l4_algstr_0 X0)\Rightarrow((l3_struct_0 X0)\wedge(l3_algstr_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0)\Rightarrow(\forall X1.(l1_polyalg1 X1 X0)\Rightarrow ((l6_algstr_0 X1)\wedge(l1_vectsp_1 X1 X0))) \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(l1_polyalg1 X1 X0) \Rightarrow \\
& (\forall X2.(l1_polyalg1 X2 X0) \Rightarrow ((m1_polyalg1 X2 X0 X1) \Leftrightarrow ((r1_tarski \\
& (u1_struct_0 X2) (u1_struct_0 X1)) \wedge ((k5_struct_0 X2 = k5_struct_0 \\
& X1) \wedge ((k4_struct_0 X2 = k4_struct_0 X1) \wedge ((u1_algstr_0 X2 = k1_realset1 \\
& (u1_algstr_0 X1) (u1_struct_0 X2)) \wedge ((u2_algstr_0 X2 = k1_realset1 \\
& (u2_algstr_0 X1) (u1_struct_0 X2)) \wedge (u1_vectsp_1 X0 X2 = k2_partfun1 \\
& (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)) (u1_struct_0 \\
& X1) (u1_vectsp_1 X0 X1) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\
& X2))))))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\forall X0.(v1_relat_1 X0) \Rightarrow (\forall X1.k1_realset1 X0 X1 = k5_relat_1 X0 (k2_zfmisc_1 X1 X1)) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(l1_struct_0 X0) \Rightarrow (\forall X1.(l1_polyalg1 X1 X0) \Rightarrow \\
& (\forall X2.(l1_polyalg1 X2 X0) \Rightarrow (\forall X3.(l1_polyalg1 X3 X0) \Rightarrow \\
& (((m1_polyalg1 X1 X0 X2) \wedge (m1_polyalg1 X2 X0 X3)) \Rightarrow (m1_polyalg1 \\
& X1 X0 X3))))))
\end{aligned}$$