

t4_polyred

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_vfunct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $v4_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota$ be given. Let $k16_pre_poly : \iota \Rightarrow \iota$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
& ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))) \Rightarrow (\\
& \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k15_pre_poly X0) \\
& (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1)))))) \Rightarrow ((r2_funct_2 (k15_pre_poly \\
& X0) (u1_struct_0 X1) (k4_polynom1 X0 X1 (k5_vfunct_1 (k15_pre_poly \\
& X0) X1 X2) X2) (k7_polynom1 X0 X1)) \wedge (r2_funct_2 (k15_pre_poly X0) \\
& (u1_struct_0 X1) (k4_polynom1 X0 X1 X2 X2) (k5_vfunct_1 (k15_pre_poly \\
& X0) X1 X2)) (k7_polynom1 X0 X1))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge ((v13_algstr_0 X1) \wedge \\
& ((v3_rlvect_1 X1) \wedge ((v4_rlvect_1 X1) \wedge (l2_algstr_0 X1)))) \Rightarrow (\\
& \forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k15_pre_poly X0) \\
& (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1)))))) \Rightarrow (r2_funct_2 (k15_pre_poly \\
& X0) (u1_struct_0 X1) (k6_polynom1 X0 X1 X2 X2) (k7_polynom1 X0 X1)))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v4_rlvect_1 X1)\wedge \\ & (l2_algstr_0 X1)))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 \\ & X2 (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow(r2_funct_2 \\ & (k15_pre_poly X0) (u1_struct_0 X1) (k4_polynom1 X0 X1 X2 (k7_polynom1 \\ & X0 X1)) X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge(l2_struct_0 X1))\Rightarrow \\ & (\forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly X0) \\ & (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow(((v1_funct_1 X2)\wedge(\\ & (v1_funct_2 X2 (k15_pre_poly X0) (u1_struct_0 X1))\wedge((v4_polynom7 \\ & X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (u1_struct_0 X1))))))\Leftrightarrow((r2_funct_2 (k15_pre_poly X0) (u1_struct_0 \\ & X1) X2 (k7_polynom1 X0 X1))\vee(k2_polynom1 (k15_pre_poly X0) X1 X2 = \\ & k6_domain_1 (k15_pre_poly X0) (k16_pre_poly X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2)\wedge \\ & ((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1))))\wedge((v1_funct_1 X3)\wedge((v1_funct_2 X3 X0 X1)\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow((r2_funct_2 X0 X1 X2 \\ & X3)\Leftrightarrow(X2 = X3)) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.k15_pre_poly X0 = k14_pre_poly X0 \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 \\ & X1)\wedge(l2_algstr_0 X1))\wedge((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 (u1_struct_0 \\ & X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & X1))))))\Rightarrow((v1_funct_1 (k5_vfunct_1 X0 X1 X2))\wedge(v1_partfun1 \\ & (k5_vfunct_1 X0 X1 X2) X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k14_pre_poly X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge(l2_struct_0 X1))\Rightarrow \\ & ((v1_funct_1 (k7_polynom1 X0 X1))\wedge((v1_funct_2 (k7_polynom1 \\ & X0 X1) (k15_pre_poly X0) (u1_struct_0 X1))\wedge(v4_polynom7 (k7_polynom1 \\ & X0 X1) X0 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0)\Rightarrow((l2_struct_0 X0)\wedge(l1_algstr_0 X0)) \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge(l2_struct_0 X1))\Rightarrow \\ & ((v1_funct_1 (k7_polynom1 X0 X1))\wedge((v1_funct_2 (k7_polynom1 \\ & X0 X1) (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 (k7_polynom1 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 \\ & X1)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\ & X1)\wedge((v13_algstr_0 X1)\wedge((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge \\ & (l2_algstr_0 X1))))))\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly \\ & X0) (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k15_pre_poly X0) (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge((\\ & v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow \\ & ((v1_funct_1 (k6_polynom1 X0 X1 X2 X3))\wedge((v1_funct_2 (k6_polynom1 \\ & X0 X1 X2 X3) (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 (\\ & k6_polynom1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (u1_struct_0 X1)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(((\neg v2_struct_0 \\ & X1)\wedge(l2_algstr_0 X1))\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 (u1_struct_0 X1)))))))\Rightarrow((v1_funct_1 (k5_vfunct_1 \\ & X0 X1 X2))\wedge(m1_subset_1 (k5_vfunct_1 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 (u1_struct_0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v2_struct_0 \\
& X1)\wedge(l2_algstr_0 X1))\wedge(((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly \\
& X0) (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1))))))\wedge((v1_funct_1 X3)\wedge((\\
& v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow \\
& ((v1_funct_1 (k4_polynom1 X0 X1 X2 X3))\wedge((v1_funct_2 (k4_polynom1 \\
& X0 X1 X2 X3) (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 (\\
& k4_polynom1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X1))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge(l2_algstr_0 X1))))\Rightarrow(\\
& \forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly X0) \\
& (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow(\forall X3.((v1_funct_1 \\
& X3)\wedge((v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X1))\wedge(m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow \\
& (k6_polynom1 X0 X1 X2 X3 = k4_polynom1 X0 X1 X2 (k5_vfunct_1 (k15_pre_poly \\
& X0) X1 X3)))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1)))\Rightarrow((v1_partfun1 X2 X0)\Rightarrow(v1_funct_2 X2 X0 X1))
\end{aligned} \tag{16}$$

Theorem 1

$$\begin{aligned}
& \forall X0.\forall X1.((\neg v2_struct_0 X1)\wedge((v13_algstr_0 X1)\wedge \\
& ((v3_rlvect_1 X1)\wedge((v4_rlvect_1 X1)\wedge(l2_algstr_0 X1))))\Rightarrow(\\
& \forall X2.((v1_funct_1 X2)\wedge((v1_funct_2 X2 (k15_pre_poly X0) \\
& (u1_struct_0 X1))\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1))))))\Rightarrow(r2_funct_2 (k15_pre_poly \\
& X0) (u1_struct_0 X1) (k6_polynom1 X0 X1 X2 (k7_polynom1 X0 X1) X2))
\end{aligned}$$