

t29_polyred
(TMcms66B5qQp7rh8xdgb46X48N3gh5jppjya)

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Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pre_poly : \iota \Rightarrow \iota$ be given. Let $v1_relat_2 : \iota \Rightarrow o$ be given. Let $v4_relat_2 : \iota \Rightarrow o$ be given. Let $v6_relat_2 : \iota \Rightarrow o$ be given. Let $v8_relat_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 (k15_pre_poly \\
& \quad X0)) \wedge (v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v6_relat_2 X1) \wedge ((\\
& \quad v8_relat_2 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& \quad X0) (k15_pre_poly X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge \\
& \quad (l2_algstr_0 X2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\
& \quad X3 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X3 (k15_pre_poly \\
& \quad X0) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& \quad X0) (u1_struct_0 X2)))))))))) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& \quad X4 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X4 (k15_pre_poly \\
& \quad X0) X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& \quad X0) (u1_struct_0 X2)))))))))) \Rightarrow ((r1_polyred X0 X1 X2 X3 X4) \vee (r1_polyred \\
& \quad X0 X1 X2 X4 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& \quad (l2_algstr_0\ X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\
& \quad X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2)))))) \Rightarrow (\forall X4.((v1_funct_1\ X4) \wedge ((v1_funct_2 \\
& \quad X4\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X4\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2)))))) \Rightarrow (((r1_polyred\ X0\ X1\ X2\ X3\ X4) \wedge (r1_polyred \\
& \quad X0\ X1\ X2\ X4\ X3)) \Leftrightarrow (k2_polynom1\ (k15_pre_poly\ X0)\ X2\ X3 = k2_polynom1 \\
& \quad \quad (k15_pre_poly\ X0)\ X2\ X4))))))
\end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l2_algstr_0\ X0) \Rightarrow ((l2_struct_0\ X0) \wedge (l1_algstr_0\ X0)) \tag{3}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& \quad (l2_struct_0\ X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\
& \quad X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2)))))) \Rightarrow (\forall X4.((v1_funct_1\ X4) \wedge ((v1_funct_2 \\
& \quad X4\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X4\ (k15_pre_poly \\
& \quad \quad X0)\ X2) \wedge (m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad \quad X0)\ (u1_struct_0\ X2)))))) \Rightarrow ((r2_polyred\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow ((r1_polyred \\
& \quad X0\ X1\ X2\ X3\ X4) \wedge (k2_polynom1\ (k15_pre_poly\ X0)\ X2\ X3 \neq k2_polynom1 \\
& \quad \quad (k15_pre_poly\ X0)\ X2\ X4))))))
\end{aligned} \tag{4}$$

Theorem 1

$$\begin{aligned} \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\ X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\ v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\ X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\ (l2_algstr_0\ X2)) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2 \\ X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly \\ X0)\ X2) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\ X0)\ (u1_struct_0\ X2))))))) \Rightarrow (\forall X4.((v1_funct_1\ X4) \wedge ((v1_funct_2 \\ X4\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X4\ (k15_pre_poly \\ X0)\ X2) \wedge (m1_subset_1\ X4\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\ X0)\ (u1_struct_0\ X2))))))) \Rightarrow ((r1_polyred\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow (\neg r2_polyred \\ X0\ X1\ X2\ X4\ X3)))))) \end{aligned}$$