t35_polyred (TMNhB-WiLNf5dnrQfWsAwVXHWNhr2ZCkbx4T)

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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 $v2\_bagorder : \iota \Rightarrow \iota \Rightarrow o$ 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 $v7\_struct\_0 : \iota \Rightarrow o$ 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 $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v3\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0)) \wedge ((v1\_relat\_2\ X1) \wedge ((v4\_relat\_2\ X1) \wedge ((v6\_relat\_2\ X1) \wedge ((v8\_relat\_2\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))) \Rightarrow (\forall X2.((\neg v7\_struct\_0\ X2) \wedge ((v13\_algstr\_0\ X2) \wedge ((v3\_rlvect\_1\ X2) \wedge ((v4\_rlvect\_1\ X2) \wedge (l2\_algstr\_0\ X2))))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)) \wedge ((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \Rightarrow (r1\_polyred\ X0\ X1\ X2\ (k5\_termord\ X0\ X1\ X2\ X3)\ X3)))) \tag{1}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v2\_bagorder\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v7\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom7\ X3\ X0\ X2)\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow(r2\_polyred\ X0\ X1\ X2\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k5\_termord\ X0\ X1\ X2\ X3)))))) \tag{2}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(l2\_algstr\_0\ X2))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow((r1\_polyred\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow(\neg r2\_polyred\ X0\ X1\ X2\ X4\ X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(l2\_algstr\_0\ X2))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X5\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(((r1\_polyred\ X0\ X1\ X2\ X3\ X4)\wedge(r1\_polyred\ X0\ X1\ X2\ X4\ X5))\Rightarrow(r1\_polyred\ X0\ X1\ X2\ X3\ X5))))))) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{5}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3\_ordinal1\ X0)\wedge (((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\wedge((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))))\Rightarrow((v1\_funct\_1\ (k6\_termord\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3\_ordinal1\ X0)\wedge (((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\wedge((\neg v2\_struct\_0\ X2)\wedge(l2\_struct\_0\ X2))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))))\Rightarrow((v1\_funct\_1\ (k5\_termord\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k5\_termord\ X0\ X1\ X2\ X3)\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v3\_polynom7\ (k5\_termord\ X0\ X1\ X2\ X3)\ X0\ X2)\wedge(m1\_subset\_1\ (k5\_termord\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge(l2\_struct\_0\ X1))\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X1))))\Rightarrow(((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X1))\wedge(v3\_polynom7\ X2\ X0\ X1)))\Rightarrow((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X1))\wedge(v1\_polynom1\ X2\ (k15\_pre\_poly\ X0)\ X1))))) \tag{9}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow((v2\_struct\_0\ X0)\Rightarrow(v7\_struct\_0\ X0)) \qquad (10)$$

Theorem 1

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v2\_bagorder\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v7\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom7\ X3\ X0\ X2)\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow(r2\_polyred\ X0\ X1\ X2\ (k6\_termord\ X0\ X1\ X2\ X3)\ X3))))$$