l50_polyred (TMKXrdLa7SnhTGWTk51VT2Rj8M4cmr92S8c)

October 27, 2020

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 $v1\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $r2\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k2\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v3\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0)) \wedge ((v1\_relat\_2\ X1) \wedge ((v4\_relat\_2\ X1) \wedge ((v6\_relat\_2\ X1) \wedge ((v8\_relat\_2\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0\ X2) \wedge (l2\_algstr\_0\ X2)) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)) \wedge ((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)) \wedge ((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \Rightarrow ((r1\_polyred\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow (\neg r2\_polyred\ X0\ X1\ X2\ X4\ X3)))))) \tag{1}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v2\_bagorder\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v7\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow((r2\_polyred\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow(\neg(\neg(r2\_funct\_2\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)\ X3\ (k7\_polynom1\ X0\ X2))\wedge(X4\neq k7\_polynom1\ X0\ X2))\wedge((\neg r2\_termord\ X0\ X1\ (k3\_termord\ X0\ X1\ X2\ X3)\ (k3\_termord\ X0\ X1\ X2\ X4))\wedge(\neg(k3\_termord\ X0\ X1\ X2\ X3 = k3\_termord\ X0\ X1\ X2\ X4)\wedge(r2\_polyred\ X0\ X1\ X2\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k6\_termord\ X0\ X1\ X2\ X4))))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3\_ordinal1\ X0)\wedge(((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\wedge((\neg v2\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))))\Rightarrow((v1\_funct\_1\ (k6\_termord\ X0\ X1\ X2\ X3))\wedge((v1\_funct\_2\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))))))) \tag{5}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v2\_struct\_0\ X2)\wedge(l2\_struct\_0\ X2))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow((r2\_polyred\ X0\ X1\ X2\ X3\ X4)\Leftrightarrow((r1\_polyred\ X0\ X1\ X2\ X3\ X4)\wedge(k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3\neq k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X4)))))) \tag{6}$$

Assume the following.

$$\forall X0.(l1\_struct\_0\ X0)\Rightarrow((v2\_struct\_0\ X0)\Rightarrow(v7\_struct\_0\ X0)) \tag{7}$$

Theorem 1

$$\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge((v8\_relat\_2\ X1)\wedge((v2\_bagorder\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow(\forall X2.((\neg v7\_struct\_0\ X2)\wedge((v13\_algstr\_0\ X2)\wedge((v3\_rlvect\_1\ X2)\wedge((v4\_rlvect\_1\ X2)\wedge(l2\_algstr\_0\ X2)))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X3\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2))\wedge((v1\_polynom1\ X4\ (k15\_pre\_poly\ X0)\ X2)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)))))))\Rightarrow(((k3\_termord\ X0\ X1\ X2\ X3 = k3\_termord\ X0\ X1\ X2\ X4)\wedge(r1\_polyred\ X0\ X1\ X2\ (k6\_termord\ X0\ X1\ X2\ X3)\ (k6\_termord\ X0\ X1\ X2\ X4)))\Rightarrow((X4 = k7\_polynom1\ X0\ X2)\vee(r1\_polyred\ X0\ X1\ X2\ X3\ X4)))))))$$