# t52_polyred (TM-Rvbk8Wa3E4ksoqSGA5EBcQPWpyQyQC1uw)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_algstr\_1 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v3\_ideal\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r11\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k5\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v4\_algstr\_1 : \iota \Rightarrow o$ be given. Let $v5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v2\_algstr\_1 : \iota \Rightarrow o$ be given. Let $v3\_algstr\_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v6\_algstr\_0\ X0) \wedge ((v1\_vectsp\_1\ X0) \wedge ((v1\_algstr\_1\ X0) \wedge (l6\_algstr\_0\ X0))))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v3\_ideal\_1\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (k4\_struct\_0\ X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v13\_algstr\_0\ X0) \wedge ((v3\_rlvect\_1\ X0) \wedge ((v4\_rlvect\_1\ X0) \wedge (l2\_algstr\_0\ X0))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (k5\_algstr\_0\ X0\ X1\ X1 = k4\_struct\_0\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0) \Rightarrow ((l2\_algstr\_0\ X0) \wedge (l5\_algstr\_0\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l2\_algstr\_0\ X0)) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow ((r11\_polyred\ X0\ X1\ X2\ X3) \Leftrightarrow (k5\_algstr\_0\ X0\ X2\ X3 \in X1))))) \tag{4}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge(v4\_rlvect\_1\ X0))))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v1\_algstr\_1\ X0)\wedge(v4\_algstr\_1\ X0)))) \quad (5)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v4\_algstr\_1\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge(v5\_algstr\_0\ X0)\wedge((v6\_algstr\_0\ X0)\wedge((v2\_algstr\_1\ X0)\wedge(v3\_algstr\_1\ X0)))))) \quad (6)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v1\_vectsp\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v1\_algstr\_1\ X0)\wedge(l6\_algstr\_0\ X0)))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v3\_ideal\_1\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(r11\_polyred\ X0\ X1\ X2\ X2)))$$