

# t26\_polyred (TMXWoaAJHKmGM- Rnnt9R86LoUQemBS1Nmif2)

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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  $r1\_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k5\_finsub\_1 : \iota \Rightarrow \iota$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v16\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k13\_bagorder : \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_2 X3) \wedge \\ & ((v4\_relat\_2 X3) \wedge ((v8\_relat\_2 X3) \wedge ((v1\_partfun1 X3 X0) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))))) \Rightarrow (((X1 \in X0) \wedge ((X2 \in X0) \wedge \\ & ((k4\_tarski X1 X2 \in X3) \wedge (k4\_tarski X2 X1 \in X3)))) \Rightarrow (X1 = X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_2 X2) \wedge ((v4\_relat\_2 \\ & X2) \wedge ((v8\_relat\_2 X2) \wedge ((v1\_partfun1 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0)))))) \Rightarrow ((X1 \in X0) \Rightarrow (k4\_tarski X1 X1 \in X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge (l2\_struct\_0 X1)) \Rightarrow \\ & (\exists X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k15\_pre\_poly \\ & X0) (u1\_struct\_0 X1)))) \wedge ((v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 (k15\_pre\_poly \\ & X0)) \wedge ((v5\_relat\_1 X2 (u1\_struct\_0 X1)) \wedge ((v1\_funct\_1 X2) \wedge ((\neg \\ & v1\_xboole\_0 X2) \wedge ((v1\_partfun1 X2 (k15\_pre\_poly X0)) \wedge ((v1\_funct\_2 \\ & X2 (k15\_pre\_poly X0) (u1\_struct\_0 X1)) \wedge (v1\_polynom1 X2 (k15\_pre\_poly \\ & X0) X1)))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. ((v1\_partfun1 X1 (k15\_pre\_poly \\ & X0)) \wedge ((v1\_relat\_2 X1) \wedge ((v4\_relat\_2 X1) \wedge ((v6\_relat\_2 X1) \wedge (( \\ & v8\_relat\_2 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k15\_pre\_poly \\ & X0) (k15\_pre\_poly X0)))))))))) \Rightarrow (\forall X2. ((\neg v2\_struct\_0 X2) \wedge \\ & (l2\_struct\_0 X2)) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\ & X3 (k15\_pre\_poly X0) (u1\_struct\_0 X2)) \wedge ((v1\_polynom1 X3 (k15\_pre\_poly \\ & X0) X2) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k15\_pre\_poly \\ & X0) (u1\_struct\_0 X2)))))) \Rightarrow (k2\_polynom1 (k15\_pre\_poly X0) X2 \\ & X3 \in k5\_finsub\_1 (u1\_struct\_0 (g1\_orders\_2 (k15\_pre\_poly X0) X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X0))) \Rightarrow (\forall X2. \forall X3. (g1\_orders\_2 X0 X1 = g1\_orders\_2 \\ & X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v4\_relat\_2 X1) \wedge ((v1\_partfun1 X1 X0) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow ((v1\_orders\_2 \\ & (g1\_orders\_2 X0 X1)) \wedge (v5\_orders\_2 (g1\_orders\_2 X0 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v8\_relat\_2 X1) \wedge ((v1\_partfun1 X1 X0) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow ((v1\_orders\_2 \\ & (g1\_orders\_2 X0 X1)) \wedge (v4\_orders\_2 (g1\_orders\_2 X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_2 X1) \wedge ((v1\_partfun1 X1 X0) \wedge \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow ((v1\_orders\_2 \\ & (g1\_orders\_2 X0 X1)) \wedge (v3\_orders\_2 (g1\_orders\_2 X0 X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v3\_ordinal1\ X0)\wedge((v1\_partfun1\ X1\ (k15\_pre\_poly \\ X0))\wedge((v1\_relat\_2\ X1)\wedge((v4\_relat\_2\ X1)\wedge((v6\_relat\_2\ X1)\wedge( \\ v8\_relat\_2\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly \\ X0)\ (k15\_pre\_poly\ X0))))))))))\Rightarrow((v1\_orders\_2\ (g1\_orders\_2\ ( \\ k15\_pre\_poly\ X0)\ X1))\wedge(v16\_waybel\_0\ (g1\_orders\_2\ (k15\_pre\_poly \\ X0)\ X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1\ X0\ X0))))\Rightarrow((\neg v2\_struct\_0\ (g1\_orders\_2\ X0\ X1))\wedge( \\ v1\_orders\_2\ (g1\_orders\_2\ X0\ X1))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2 \\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v16\_waybel\_0\ X0)\wedge(l1\_orders\_2\ X0))))))\Rightarrow \\ ((v1\_partfun1\ (k13\_bagorder\ X0)\ (k5\_finsub\_1\ (u1\_struct\_0\ X0)))\wedge \\ ((v1\_relat\_2\ (k13\_bagorder\ X0))\wedge((v4\_relat\_2\ (k13\_bagorder \\ X0))\wedge((v8\_relat\_2\ (k13\_bagorder\ X0))\wedge(m1\_subset\_1\ (k13\_bagorder \\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k5\_finsub\_1\ (u1\_struct\_0\ X0)) \\ (k5\_finsub\_1\ (u1\_struct\_0\ X0)))))))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ X0\ X0)))\Rightarrow((v1\_orders\_2\ (g1\_orders\_2\ X0\ X1))\wedge(l1\_orders\_2\ (g1\_orders\_2 \\ X0\ X1))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3\_ordinal1\ X0) \Rightarrow (\forall X1.((v1\_partfun1\ X1\ (k15\_pre\_poly \\
& \quad X0)) \wedge ((v1\_relat\_2\ X1) \wedge ((v4\_relat\_2\ X1) \wedge ((v6\_relat\_2\ X1) \wedge (( \\
& \quad v8\_relat\_2\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly \\
& \quad \quad X0)\ (k15\_pre\_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2\_struct\_0\ X2) \wedge \\
& \quad (l2\_struct\_0\ X2)) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge ((v1\_funct\_2 \\
& \quad X3\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)) \wedge ((v1\_polynom1\ X3\ (k15\_pre\_poly \\
& \quad \quad X0)\ X2) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly \\
& \quad \quad \quad X0)\ (u1\_struct\_0\ X2)))))) \Rightarrow (\forall X4.((v1\_funct\_1\ X4) \wedge ((v1\_funct\_2 \\
& \quad X4\ (k15\_pre\_poly\ X0)\ (u1\_struct\_0\ X2)) \wedge ((v1\_polynom1\ X4\ (k15\_pre\_poly \\
& \quad \quad X0)\ X2) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k15\_pre\_poly \\
& \quad \quad \quad X0)\ (u1\_struct\_0\ X2)))))) \Rightarrow ((r1\_polyred\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow (k4\_tarski \\
& \quad (k2\_polynom1\ (k15\_pre\_poly\ X0)\ X2\ X3)\ (k2\_polynom1\ (k15\_pre\_poly \\
& \quad \quad X0)\ X2\ X4) \in k13\_bagorder\ (g1\_orders\_2\ (k15\_pre\_poly\ X0)\ X1))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1 \\
& \quad X1\ X0)) \Rightarrow ((v1\_xboole\_0\ X1) \wedge ((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1\_orders\_2\ X0) \Rightarrow ((v1\_orders\_2\ X0) \Rightarrow (X0 = g1\_orders\_2 \\
& \quad (u1\_struct\_0\ X0)\ (u1\_orders\_2\ X0)))
\end{aligned} \tag{16}$$

**Theorem 1**

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