

# t24\_polynom8 (TMTwh- Wmm8ECtUsMovQAFW5VFg82MarMXeib)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v33\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_polynom8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_group\_1 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_binom : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_0 : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_int\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (\forall X1.(v1\_xreal\_0 X1) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 X1) \wedge ((\neg v3\_xxreal\_0 X1) \wedge (\neg v2\_xxreal\_0 X0)))) \quad (1)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1)\Rightarrow((v1\_xboole\_0 X1)\vee (X0 \in X1)) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(k3\_xcmplx\_0 X0 \ k6\_numbers = k6\_numbers) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v1\_group\_1 X0)\wedge((v3\_group\_1 \\ X0)\wedge(l3\_algstr\_0 X0))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0))\Rightarrow(\forall X2.(v7\_ordinal1 X2)\Rightarrow(\forall X3.(v7\_ordinal1 \\ X3)\Rightarrow(k2\_binom X0 (k2\_binom X0 X1 X2) X3 = k2\_binom X0 X1 (k3\_xcmplx\_0 \\ X2 X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$(m2\_subset\_1 np\_0 k1\_numbers k5\_numbers)\wedge((m1\_subset\_1 np\_0 k5\_numbers)\wedge(m1\_subset\_1 np\_0 k1\_numbers)) \quad (8)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge((\neg v1\_xboole\_0 X1)\wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))))\Rightarrow(\forall X2.(m2\_subset\_1 \\ X2 X0 X1)\Leftrightarrow(m1\_subset\_1 X2 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (11)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers)\wedge(v7\_ordinal1 X1))\Rightarrow(k4\_nat\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (13)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (14)$$

Assume the following.

$$\exists X0.(v1\_xcmplx\_0 X0)\wedge((v1\_xreal\_0 X0)\wedge((v3\_xreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (15)$$

Assume the following.

$$\exists X0.(m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers)) \wedge ((\neg v1\_xboole\_0 X0) \wedge (v3\_ordinal1 X0)) \quad (16)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X0)) \wedge ((\neg v3\_xxreal\_0 X1) \wedge (v1\_xxreal\_0 X1))) \Rightarrow (\neg v2\_xxreal\_0 (k3\_xcmplx\_0 X0 X1)) \quad (18)$$

Assume the following.

$$\forall X0.\exists X1.m1\_subset\_1 X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (20)$$

Assume the following.

$$\forall X0.(l5\_algstr\_0 X0) \Rightarrow ((l4\_algstr\_0 X0) \wedge (l4\_struct\_0 X0)) \quad (21)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \quad (22)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 X1)) \Rightarrow (m2\_subset\_1 (k4\_nat\_1 X0 X1) k1\_numbers k5\_numbers) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v1\_group\_1 X0) \wedge (l3\_algstr\_0 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (v7\_ordinal1 X2))) \Rightarrow (m1\_subset\_1 (k2\_binom X0 X1 X2) (u1\_struct\_0 X0)) \quad (25)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 \\ X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ( \\ l6\_algstr\_0 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X2.(v1\_int\_1 X2) \Rightarrow (((r1\_xxreal\_0 k6\_numbers X2) \Rightarrow \\ (k3\_polynom8 X0 X1 X2 = k1\_binop\_1 (k4\_group\_1 X0) X1 X2)) \wedge ((\neg r1\_xxreal\_0 \\ k6\_numbers X2) \Rightarrow (k3\_polynom8 X0 X1 X2 = k11\_algstr\_0 X0 (k2\_binop\_1 \\ (u1\_struct\_0 X0) k5\_numbers (u1\_struct\_0 X0) (k4\_group\_1 X0) X1 \\ (k1\_int\_2 X2)))))))) \end{aligned} \quad (26)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_group\_1 X0) \wedge (l3\_algstr\_0 \\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (v7\_ordinal1 X2) \Rightarrow (k2\_binom X0 X1 X2 = k1\_binop\_1 (k4\_group\_1 X0) \\ X1 X2))) \end{aligned} \quad (27)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k5\_numbers) \wedge (v7\_ordinal1 \\ X1)) \Rightarrow (k4\_nat\_1 X0 X1 = k4\_nat\_1 X1 X0) \quad (28)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (29)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v4\_vectsp\_1 \\ X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge (v1\_group\_1 X0))) \quad (30)$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0 X0) \wedge (v2\_xxreal\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 \\ X0) \wedge ((v1\_xxreal\_0 X0) \wedge (\neg v3\_xxreal\_0 X0))) \quad (31)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_xreal\_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\neg v3\_xxreal\_0 X0) \quad (33)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_int\_1 X0) \quad (34)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (35)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 \\ & X0) \wedge ((v5\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 X0) \wedge ( \\ & l6\_algstr\_0 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow (\forall X3.(m1\_subset\_1 \\ & X3 k5\_numbers) \Rightarrow (k3\_polynom8 X0 X1 (k4\_nat\_1 X2 X3) = k3\_polynom8 \\ & X0 (k3\_polynom8 X0 X1 X2) X3)))) \end{aligned}$$