

t66_polynom5 (TM- SWkKFM8N5cmF1ZjxHKr5b7sgUG13zgvIU)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_polynom5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k8_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_funcop_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k4_group_1 : \iota \Rightarrow \iota$ be given. Let $k1_group_1 : \iota \Rightarrow \iota$ be given. Let $k2_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.(X1 \in X0) \Rightarrow (k1_funct_1 (k2_funcop_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X2 X0))\Rightarrow(k8_funcop_1 X0 X1 X2 = k2_funcop_1 X1 X2) \quad (5)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (6)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0)\wedge \\ & (((v1_funct_1 X2)\wedge((v1_funct_2 X2 X0 X1)\wedge(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))))))\wedge(m1_subset_1 X3 X0)))\Rightarrow(k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_struct_0 X0))\Rightarrow(\neg v1_xboole_0 (u1_struct_0 X0)) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1_relat_1 (k2_funcop_1 X0 X1))\wedge((v4_relat_1 \\ & (k2_funcop_1 X0 X1) X0)\wedge((v1_funct_1 (k2_funcop_1 X0 X1))\wedge(v1_partfun1 \\ & (k2_funcop_1 X0 X1) X0))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l3_algstr_0 X0)\Rightarrow(l1_struct_0 X0) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge((v1_group_1 \\ & X0)\wedge(l3_algstr_0 X0)))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge \\ & m1_subset_1 X2 k5_numbers))\Rightarrow((v1_funct_1 (k8_polynom5 X0 X1 \\ & X2))\wedge((v1_funct_2 (k8_polynom5 X0 X1 X2) (u1_struct_0 X0) (u1_struct_0 \\ & X0))\wedge(m1_subset_1 (k8_polynom5 X0 X1 X2) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 \\ & X2 X0))\Rightarrow((v1_funct_1 (k8_funcop_1 X0 X1 X2))\wedge((v1_funct_2 (k8_funcop_1 \\ & X0 X1 X2) X1 X0)\wedge(m1_subset_1 (k8_funcop_1 X0 X1 X2) (k1_zfmisc_1 \\ & (k2_zfmisc_1 X1 X0)))))) \end{aligned} \quad (13)$$

Assume the following.

$$m2_subset_1 \ k6_numbers \ k1_numbers \ k5_numbers \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 \ X0) \wedge (l3_algstr_0 \ X0)) \Rightarrow & ((v1_funct_1 \\ (k4_group_1 \ X0)) \wedge ((v1_funct_2 \ (k4_group_1 \ X0) \ (k2_zfmisc_1 \ (\\ u1_struct_0 \ X0) \ k5_numbers) \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ (\\ k4_group_1 \ X0) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ (u1_struct_0 \\ X0) \ k5_numbers) \ (u1_struct_0 \ X0)))))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(l3_algstr_0 \ X0) \Rightarrow (m1_subset_1 \ (k1_group_1 \ X0) \ (u1_struct_0 \ X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 \ X0) \wedge (l3_algstr_0 \ X0)) \Rightarrow & (\forall X1. \\ ((v1_funct_1 \ X1) \wedge ((v1_funct_2 \ X1 \ (k2_zfmisc_1 \ (u1_struct_0 \ X0) \\ k5_numbers) \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ X1 \ (k1_zfmisc_1 \ (\\ k2_zfmisc_1 \ (k2_zfmisc_1 \ (u1_struct_0 \ X0) \ k5_numbers) \ (u1_struct_0 \\ X0)))))) \Rightarrow ((X1 = k4_group_1 \ X0) \Leftrightarrow (\forall X2.(m1_subset_1 \ X2 \ (u1_struct_0 \\ X0)) \Rightarrow ((k2_binop_1 \ (u1_struct_0 \ X0) \ k5_numbers \ (u1_struct_0 \ X0) \\ X1 \ X2 \ k6_numbers = k1_group_1 \ X0) \wedge (\forall X3.(m2_subset_1 \ X3 \ k1_numbers \\ k5_numbers) \Rightarrow (k2_binop_1 \ (u1_struct_0 \ X0) \ k5_numbers \ (u1_struct_0 \\ X0) \ X1 \ X2 \ (k2_nat_1 \ X3 \ np_1) = k6_algstr_0 \ X0 \ (k2_binop_1 \ (u1_struct_0 \\ X0) \ k5_numbers \ (u1_struct_0 \ X0) \ X1 \ X2 \ X3) \ X2)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.(l3_algstr_0 \ X0) \Rightarrow & ((v1_group_1 \ X0) \Rightarrow (\forall X1.(m1_subset_1 \\ X1 \ (u1_struct_0 \ X0)) \Rightarrow ((X1 = k1_group_1 \ X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 \ (u1_struct_0 \ X0)) \Rightarrow ((k6_algstr_0 \ X0 \ X2 \ X1 = X2) \wedge (k6_algstr_0 \\ X0 \ X1 \ X2 = X2)))))) \end{aligned} \quad (18)$$

Assume the following.

$$k1_xboole_0 = the \ (\lambda X0 : \iota.v1_xboole_0 \ X0) \quad (19)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l3_algstr_0 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
& (m2_subset_1 X2 k1_numbers k5_numbers) \Rightarrow (\forall X3.((v1_funct_1 \\
& X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X0) (u1_struct_0 X0)) \wedge (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)))))) \Rightarrow \\
& ((X3 = k8_polynom5 X0 X1 X2) \Leftrightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& X0)) \Rightarrow (k3_funct_2 (u1_struct_0 X0) (u1_struct_0 X0) X3 X4 = k6_algstr_0 \\
& X0 X1 (k2_binop_1 (u1_struct_0 X0) k5_numbers (u1_struct_0 X0) \\
& (k4_group_1 X0) X4 X2))))))
\end{aligned} \tag{20}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge (l3_algstr_0 \\
& X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (r2_funct_2 \\
& (u1_struct_0 X0) (u1_struct_0 X0) (k8_polynom5 X0 X1 k6_numbers) \\
& (k8_funcop_1 (u1_struct_0 X0) (u1_struct_0 X0) X1)))
\end{aligned}$$