

t26_termord (TM-
bZFDdb1HZVxHnGr9gmbewnShnYWfQcoiGk)

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $l2_struct_0 : \iota \Rightarrow o$ 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 $r6_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k14_pre_poly : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_polynom7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v6_relat_2 X1) \wedge ((\\
& \quad v8_relat_2 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& \quad X0) (k15_pre_poly X0)))))))))) \Rightarrow (\forall X2.((\neg v7_struct_0 X2) \wedge \\
& \quad (l2_struct_0 X2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 \\
& \quad X3 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X3 (k15_pre_poly \\
& \quad X0) X2) \wedge (m2_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& \quad X0) (u1_struct_0 X2)))))) \Rightarrow ((r6_pboole X0 (k2_polynom7 X0 X2 (\\
& \quad k5_termord X0 X1 X2 X3)) (k3_termord X0 X1 X2 X3)) \wedge (k3_polynom7 X0 \\
& \quad X2 (k5_termord X0 X1 X2 X3) = k4_termord X0 X1 X2 X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((v1_relat_1 X1)\wedge((v4_relat_1 \\ & X1 X0)\wedge((v1_funct_1 X1)\wedge(v1_partfun1 X1 X0))))\wedge((v1_relat_1 \\ & X2)\wedge((v4_relat_1 X2 X0)\wedge((v1_funct_1 X2)\wedge(v1_partfun1 X2 X0))))\Rightarrow \\ & ((r6_pboole X0 X1 X2)\Leftrightarrow(X1 = X2)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge((\neg v1_xboole_0 X1)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 X0))))\Rightarrow(\forall X2.(m2_subset_1 \\ & X2 X0 X1)\Leftrightarrow(m1_subset_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.k15_pre_poly X0 = k14_pre_poly X0 \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0)\Rightarrow(\forall X1.((v1_partfun1 X1 (k15_pre_poly \\ & X0))\wedge((v1_relat_2 X1)\wedge((v4_relat_2 X1)\wedge((v6_relat_2 X1)\wedge((\\ & v8_relat_2 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\ & X0) (k15_pre_poly X0))))))))\Rightarrow(\forall X2.((\neg v2_struct_0 X2)\wedge \\ & (l2_struct_0 X2))\Rightarrow(\forall X3.((v1_funct_1 X3)\wedge((v1_funct_2 \\ & X3 (k15_pre_poly X0) (u1_struct_0 X2))\wedge((v3_polynom7 X3 X0 X2)\wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (\\ & u1_struct_0 X2))))))\Rightarrow((r6_pboole X0 (k3_termord X0 X1 X2 X3) (\\ & k2_polynom7 X0 X2 X3)\wedge((k4_termord X0 X1 X2 X3 = k3_polynom7 X0 X2 \\ & X3)\wedge(r8_pboole (k15_pre_poly X0) (k5_termord X0 X1 X2 X3) X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\neg v1_xboole_0 (k14_pre_poly X0) \quad (6)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0)\Rightarrow(l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v3_ordinal1\ X0)\wedge \\
& (((v1_partfun1\ X1\ (k15_pre_poly\ X0))\wedge((v1_relat_2\ X1)\wedge((v4_relat_2 \\
& X1)\wedge((v6_relat_2\ X1)\wedge((v8_relat_2\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (k15_pre_poly\ X0))))))))\wedge((\\
& (\neg v2_struct_0\ X2)\wedge(l2_struct_0\ X2))\wedge((v1_funct_1\ X3)\wedge((v1_funct_2 \\
& X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2))\wedge((v1_polynom1\ X3\ (k15_pre_poly \\
& X0)\ X2)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X2))))))))\Rightarrow((v1_funct_1\ (k5_termord\ X0\ X1 \\
& X2\ X3))\wedge((v1_funct_2\ (k5_termord\ X0\ X1\ X2\ X3)\ (k15_pre_poly\ X0) \\
& (u1_struct_0\ X2))\wedge((v3_polynom7\ (k5_termord\ X0\ X1\ X2\ X3)\ X0\ X2)\wedge \\
& (m1_subset_1\ (k5_termord\ X0\ X1\ X2\ X3)\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& (k15_pre_poly\ X0)\ (u1_struct_0\ X2))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.((v3_ordinal1\ X0)\wedge \\
& (((v1_partfun1\ X1\ (k15_pre_poly\ X0))\wedge((v1_relat_2\ X1)\wedge((v4_relat_2 \\
& X1)\wedge((v6_relat_2\ X1)\wedge((v8_relat_2\ X1)\wedge(m1_subset_1\ X1\ (k1_zfmisc_1 \\
& (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (k15_pre_poly\ X0))))))))\wedge((\\
& (\neg v2_struct_0\ X2)\wedge(l2_struct_0\ X2))\wedge((v1_funct_1\ X3)\wedge((v1_funct_2 \\
& X3\ (k15_pre_poly\ X0)\ (u1_struct_0\ X2))\wedge((v1_polynom1\ X3\ (k15_pre_poly \\
& X0)\ X2)\wedge(m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& X0)\ (u1_struct_0\ X2))))))))\Rightarrow(m2_subset_1\ (k3_termord\ X0\ X1 \\
& X2\ X3)\ (k14_pre_poly\ X0)\ (k15_pre_poly\ X0))
\end{aligned} \tag{9}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0\ X1)\wedge(l2_struct_0 \\
& X1))\wedge((v1_funct_1\ X2)\wedge((v1_funct_2\ X2\ (k15_pre_poly\ X0)\ (u1_struct_0 \\
& X1))\wedge((v3_polynom7\ X2\ X0\ X1)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1 \\
& (k15_pre_poly\ X0)\ (u1_struct_0\ X1))))))))\Rightarrow((v1_relat_1\ (k2_polynom7 \\
& X0\ X1\ X2))\wedge((v4_relat_1\ (k2_polynom7\ X0\ X1\ X2)\ X0)\wedge((v1_funct_1 \\
& (k2_polynom7\ X0\ X1\ X2))\wedge((v1_partfun1\ (k2_polynom7\ X0\ X1\ X2)\ X0)\wedge \\
& ((v4_valued_0\ (k2_polynom7\ X0\ X1\ X2))\wedge(v2_pre_poly\ (k2_polynom7 \\
& X0\ X1\ X2))))))
\end{aligned} \tag{10}$$

Assume the following.

$$\forall X0.m1_subset_1\ (k15_pre_poly\ X0)\ (k1_zfmisc_1\ (k14_pre_poly\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1\ X1\ (k1_zfmisc_1\ (k15_pre_poly\ X0)))\Rightarrow(v4_funct_1\ X1) \tag{12}$$

Assume the following.

$$\forall X0.(v4_funct_1 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 X0) \Rightarrow (v1_relat_1 X1) \wedge (v1_funct_1 X1)) \quad (13)$$

Assume the following.

$$\forall X0.(l1_struct_0 X0) \Rightarrow ((v2_struct_0 X0) \Rightarrow (v7_struct_0 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0)))) \Rightarrow (\forall X2.(m1_subset_1 X2 X1) \Rightarrow ((v1_partfun1 X2 X0) \wedge ((v4_valued_0 X2) \wedge (v2_pre_poly X2)))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 X1) \Rightarrow (v4_relat_1 X2 X0)) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v3_ordinal1 X0) \Rightarrow (\forall X1.((v1_partfun1 X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v6_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly X0)))))))))) \Rightarrow (\forall X2.((\neg v7_struct_0 X2) \wedge (l2_struct_0 X2)) \Rightarrow (\forall X3.((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X3 (k15_pre_poly X0) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (u1_struct_0 X2)))))) \Rightarrow (r6_pboole X0 (k3_termord X0 X1 X2 (k5_termord X0 X1 X2 X3)) (k3_termord X0 X1 X2 X3)))))) \end{aligned}$$