

l32_groeb_3

(TMafhcWB3Utp32rqq8JGQ5mcygRuKJEjDYP)

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 $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ 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 $k5_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_card_1 : \iota \Rightarrow \iota$ be given. Let $k2_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_groeb_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_groeb_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_groeb_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v4_valued_0 : \iota \Rightarrow o$ be given. Let $v2_pre_poly : \iota \Rightarrow o$ be given. Let $k3_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $r1_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. r1_tarski (k4_xboole_0 X0 X1) X0 \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Rightarrow (k3_xboole_0 X0 X1 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l2_struct_0 X1)) \Rightarrow \\
& (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k15_pre_poly X0) \\
& (u1_struct_0 X1)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X1)))))) \Rightarrow (\forall X3. (m1_subset_1 \\
& X3 (k1_zfmisc_1 (k15_pre_poly X0))) \Rightarrow ((k2_polynom1 (k15_pre_poly \\
& X0) X1 (k2_groeb_3 X0 X1 X2 X3) = k3_xboole_0 (k2_polynom1 (k15_pre_poly \\
& X0) X1 X2) X3) \wedge (\forall X4. ((v1_relat_1 X4) \wedge ((v4_relat_1 X4 X0) \wedge \\
& ((v1_funct_1 X4) \wedge ((v1_partfun1 X4 X0) \wedge ((v4_valued_0 X4) \wedge (v2_pre_poly \\
& X4)))))) \Rightarrow ((X4 \in k2_polynom1 (k15_pre_poly X0) X1 (k2_groeb_3 X0 \\
& X1 X2 X3)) \Rightarrow (k3_polynom1 X0 X1 (k2_groeb_3 X0 X1 X2 X3) X4 = k3_polynom1 \\
& X0 X1 X2 X4))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v3_ordinal1 \\
& X0) \wedge (((v1_partfun1 X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge \\
& (v4_relat_2 X1) \wedge ((v6_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly \\
& X0)))))))))) \wedge (((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v3_rlvect_1 \\
& X2) \wedge ((v4_rlvect_1 X2) \wedge (l2_algstr_0 X2)))))) \wedge (((v1_funct_1 X3) \wedge \\
& ((v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 \\
& X3 (k15_pre_poly X0) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X2)))))) \wedge (m1_subset_1 X4 k5_numbers)))))) \Rightarrow \\
& ((v1_finset_1 (k4_groeb_3 X0 X1 X2 X3 X4) \wedge (m1_subset_1 (k4_groeb_3 \\
& X0 X1 X2 X3 X4) (k1_zfmisc_1 (k15_pre_poly X0))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v3_ordinal1 \\
& X0) \wedge (((v1_partfun1 X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge \\
& (v4_relat_2 X1) \wedge ((v6_relat_2 X1) \wedge ((v8_relat_2 X1) \wedge (m1_subset_1 \\
& X1 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly \\
& X0)))))))))) \wedge (((\neg v2_struct_0 X2) \wedge ((v13_algstr_0 X2) \wedge ((v3_rlvect_1 \\
& X2) \wedge ((v4_rlvect_1 X2) \wedge (l2_algstr_0 X2)))))) \wedge (((v1_funct_1 X3) \wedge \\
& ((v1_funct_2 X3 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 \\
& X3 (k15_pre_poly X0) X2) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X2)))))) \wedge (m1_subset_1 X4 k5_numbers)))))) \Rightarrow \\
& ((v1_finset_1 (k3_groeb_3 X0 X1 X2 X3 X4) \wedge (m1_subset_1 (k3_groeb_3 \\
& X0 X1 X2 X3 X4) (k1_zfmisc_1 (k15_pre_poly X0))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& \quad ((v13_algstr_0\ X2) \wedge ((v3_rlvect_1\ X2) \wedge ((v4_rlvect_1\ X2) \wedge (l2_algstr_0 \\
& \quad \quad X2)))))) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ (k15_pre_poly \\
& \quad X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly\ X0)\ X2) \wedge \\
& \quad (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (\\
& \quad \quad u1_struct_0\ X2)))))) \Rightarrow (\forall X4.(m1_subset_1\ X4\ k5_numbers) \Rightarrow \\
& \quad (k4_groeb_3\ X0\ X1\ X2\ X3\ X4 = k4_xboole_0\ (k2_polynom1\ (k15_pre_poly \\
& \quad \quad X0)\ X2\ X3)\ (k3_groeb_3\ X0\ X1\ X2\ X3\ X4))))))
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& \quad v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& \quad ((v13_algstr_0\ X2) \wedge ((v3_rlvect_1\ X2) \wedge ((v4_rlvect_1\ X2) \wedge (l2_algstr_0 \\
& \quad \quad X2)))))) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ (k15_pre_poly \\
& \quad X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly\ X0)\ X2) \wedge \\
& \quad (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (\\
& \quad \quad u1_struct_0\ X2)))))) \Rightarrow (\forall X4.(m1_subset_1\ X4\ k5_numbers) \Rightarrow \\
& \quad ((r1_xreal_0\ X4\ (k5_card_1\ (k2_polynom1\ (k15_pre_poly\ X0)\ X2 \\
& \quad \quad X3))) \Rightarrow (\forall X5.((v1_finset_1\ X5) \wedge (m1_subset_1\ X5\ (k1_zfmisc_1 \\
& \quad (k15_pre_poly\ X0)))) \Rightarrow ((X5 = k3_groeb_3\ X0\ X1\ X2\ X3\ X4) \Leftrightarrow ((r1_tarski \\
& \quad X5\ (k2_polynom1\ (k15_pre_poly\ X0)\ X2\ X3)) \wedge ((k5_card_1\ X5 = X4) \wedge \\
& \quad (\forall X6.((v1_relat_1\ X6) \wedge ((v4_relat_1\ X6\ X0) \wedge ((v1_funct_1 \\
& \quad X6) \wedge ((v1_partfun1\ X6\ X0) \wedge ((v4_valued_0\ X6) \wedge (v2_pre_poly\ X6)))))) \Rightarrow \\
& \quad (\forall X7.((v1_relat_1\ X7) \wedge ((v4_relat_1\ X7\ X0) \wedge ((v1_funct_1 \\
& \quad X7) \wedge ((v1_partfun1\ X7\ X0) \wedge ((v4_valued_0\ X7) \wedge (v2_pre_poly\ X7)))))) \Rightarrow \\
& \quad (((X6 \in X5) \wedge ((X7 \in k2_polynom1\ (k15_pre_poly\ X0)\ X2\ X3) \wedge (r1_termord \\
& \quad \quad X0\ X1\ X6\ X7))) \Rightarrow (X7 \in X5))))))))))
\end{aligned} \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0\ X0\ X1 = k3_xboole_0\ X1\ X0 \tag{9}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(v3_ordinal1\ X0) \Rightarrow (\forall X1.((v1_partfun1\ X1\ (k15_pre_poly \\
& \quad X0)) \wedge ((v1_relat_2\ X1) \wedge ((v4_relat_2\ X1) \wedge ((v6_relat_2\ X1) \wedge ((\\
& v8_relat_2\ X1) \wedge (m1_subset_1\ X1\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly \\
& \quad X0)\ (k15_pre_poly\ X0)))))))))) \Rightarrow (\forall X2.((\neg v2_struct_0\ X2) \wedge \\
& ((v13_algstr_0\ X2) \wedge ((v3_rlvect_1\ X2) \wedge ((v4_rlvect_1\ X2) \wedge (l2_algstr_0 \\
& \quad X2)))))) \Rightarrow (\forall X3.((v1_funct_1\ X3) \wedge ((v1_funct_2\ X3\ (k15_pre_poly \\
& \quad X0)\ (u1_struct_0\ X2)) \wedge ((v1_polynom1\ X3\ (k15_pre_poly\ X0)\ X2) \wedge \\
& \quad (m1_subset_1\ X3\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k15_pre_poly\ X0)\ (\\
& \quad u1_struct_0\ X2)))))) \Rightarrow (\forall X4.(m1_subset_1\ X4\ k5_numbers) \Rightarrow \\
& ((r1_xreal_0\ X4\ (k5_card_1\ (k2_polynom1\ (k15_pre_poly\ X0)\ X2 \\
& \quad X3))) \Rightarrow ((k2_polynom1\ (k15_pre_poly\ X0)\ X2\ (k2_groeb_3\ X0\ X2\ X3\ (\\
& k3_groeb_3\ X0\ X1\ X2\ X3\ X4)) = k3_groeb_3\ X0\ X1\ X2\ X3\ X4) \wedge (k2_polynom1 \\
& (k15_pre_poly\ X0)\ X2\ (k2_groeb_3\ X0\ X2\ X3\ (k4_groeb_3\ X0\ X1\ X2\ X3\ X4)) = \\
& \quad k4_groeb_3\ X0\ X1\ X2\ X3\ X4))))))
\end{aligned}$$