

t57_groeb_3

(TMH1Hq1AAeaMJ47wF5G7EnRX3CsP1NW2SSC)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ 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 $v2_bagorder : \iota \Rightarrow \iota \Rightarrow o$ 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 $v6_struct_0 : \iota \Rightarrow o$ be given. Let $v13_algstr_0 : \iota \Rightarrow o$ 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 $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v4_rlvect_1 : \iota \Rightarrow o$ be given. Let $l6_algstr_0 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k11_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_groeb_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $v1_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_groeb_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_termord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_polyred : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_groeb_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_polynom1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_rewrite1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be

given. Let $r8_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \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 ((v2_bagorder X1 X0) \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 ((\neg v6_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v33_algstr_0 X2) \wedge ((v3_group_1 X2) \wedge ((v5_group_1 X2) \wedge (\\
& (v4_vectsp_1 X2) \wedge ((v5_vectsp_1 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 \\
& X2) \wedge ((v4_rlvect_1 X2) \wedge (l6_algstr_0 X2)))))))))) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k11_polynom1 X0 X2)))) \Rightarrow \\
& ((\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 X4 (k15_pre_poly \\
& X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X4 (k15_pre_poly X0) X2) \wedge \\
& (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly X0) (\\
& u1_struct_0 X2)))))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge ((v1_funct_2 \\
& X5 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X5 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X6.((v1_funct_1 X6) \wedge ((v1_funct_2 \\
& X6 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X6 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (((X4 \in X3) \wedge ((X5 \in X3) \wedge (r4_rewrite1 \\
& (k3_polyred X0 X1 X2 X3) (k3_groeb_2 X0 X1 X2 X4 X5) X6))) \Rightarrow (r8_pboole \\
& (k15_pre_poly X0) X6 (k7_polynom1 X0 X2)))))) \Rightarrow (\forall X4.((v1_funct_1 \\
& X4) \wedge ((v1_funct_2 X4 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 \\
& X4 (k15_pre_poly X0) X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X5.((v1_funct_1 \\
& X5) \wedge ((v1_funct_2 X5 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 \\
& X5 (k15_pre_poly X0) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\
& (k15_pre_poly X0) (u1_struct_0 X2)))))) \Rightarrow (((X4 \in X3) \wedge (X5 \in X3)) \Rightarrow \\
& (r1_rewrite1 (k3_polyred X0 X1 X2 X3) (k3_groeb_2 X0 X1 X2 X4 X5) (\\
& k7_polynom1 X0 X2))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_partfun1 \\
& X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v6_relat_2 \\
& X1) \wedge ((v8_relat_2 X1) \wedge ((v2_bagorder X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly X0)))))))))) \Rightarrow (\\
& \forall X2.((\neg v2_struct_0 X2) \wedge ((\neg v6_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v33_algstr_0 X2) \wedge ((v3_group_1 X2) \wedge ((v5_group_1 X2) \wedge (\\
& (v4_vectsp_1 X2) \wedge ((v5_vectsp_1 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 \\
& X2) \wedge ((v4_rlvect_1 X2) \wedge (l6_algstr_0 X2)))))))))) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k11_polynom1 X0 X2)))) \Rightarrow \\
& ((r1_groeb_1 X0 X1 X2 X3) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& X4 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X4 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge ((v1_funct_2 \\
& X5 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X5 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X6.((v1_funct_1 X6) \wedge ((v1_funct_2 \\
& X6 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X6 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X6 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (((X4 \in X3) \wedge ((X5 \in X3) \wedge (r4_rewrite1 \\
& (k3_polyred X0 X1 X2 X3) (k3_groeb_2 X0 X1 X2 X4 X5) X6))) \Rightarrow (r8_pboole \\
& (k15_pre_poly X0) X6 (k7_polynom1 X0 X2)))))))))
\end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((v1_partfun1 \\
& X1 (k15_pre_poly X0)) \wedge ((v1_relat_2 X1) \wedge ((v4_relat_2 X1) \wedge ((v6_relat_2 \\
& X1) \wedge ((v8_relat_2 X1) \wedge ((v2_bagorder X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (k2_zfmisc_1 (k15_pre_poly X0) (k15_pre_poly X0)))))))))) \Rightarrow (\\
& \forall X2.((\neg v2_struct_0 X2) \wedge ((\neg v6_struct_0 X2) \wedge ((v13_algstr_0 \\
& X2) \wedge ((v33_algstr_0 X2) \wedge ((v3_group_1 X2) \wedge ((v5_group_1 X2) \wedge (\\
& (v4_vectsp_1 X2) \wedge ((v5_vectsp_1 X2) \wedge ((v2_rlvect_1 X2) \wedge ((v3_rlvect_1 \\
& X2) \wedge ((v4_rlvect_1 X2) \wedge (l6_algstr_0 X2)))))))))) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k11_polynom1 X0 X2)))) \Rightarrow \\
& ((r1_groeb_1 X0 X1 X2 X3) \Rightarrow (\forall X4.((v1_funct_1 X4) \wedge ((v1_funct_2 \\
& X4 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X4 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (\forall X5.((v1_funct_1 X5) \wedge ((v1_funct_2 \\
& X5 (k15_pre_poly X0) (u1_struct_0 X2)) \wedge ((v1_polynom1 X5 (k15_pre_poly \\
& X0) X2) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (k15_pre_poly \\
& X0) (u1_struct_0 X2)))))) \Rightarrow (((X4 \in X3) \wedge (X5 \in X3)) \Rightarrow ((r1_groeb_2 \\
& X0 (k3_termord X0 X1 X2 X4) (k3_termord X0 X1 X2 X5)) \vee (r1_rewrite1 \\
& (k3_polyred X0 X1 X2 X3) (k3_groeb_2 X0 X1 X2 X4 X5) (k7_polynom1 X0 \\
& X2)))))))))
\end{aligned}$$