

t40_genealg1 (TML- raV5bGUutMfhrpPC5QnVQ3QabnsRoBCS)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v2_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $m1_genealg1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_card_3 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\ & X1) \wedge ((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))))) \Rightarrow (\forall X2.(m1_genealg1 X2 X1) \Rightarrow (\forall X3.(m1_genealg1 \\ & X3 X1) \Rightarrow (m1_genealg1 (k1_genealg1 X1 X2 X3 X0) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4.((\neg v1_xboole_0 X4) \wedge \\ & ((v1_relat_1 X4) \wedge ((v2_relat_1 X4) \wedge ((v1_funct_1 X4) \wedge (v1_finseq_1 \\ & X4)))))) \Rightarrow (\forall X5.(m1_genealg1 X5 X4) \Rightarrow (\forall X6.(m1_genealg1 \\ & X6 X4) \Rightarrow (m1_genealg1 (k4_genealg1 X4 X5 X6 X0 X1 X2 X3) X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\ & X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m1_genealg1 \\ & X1 X0) \Rightarrow (m2_finseq_1 X1 (k3_card_3 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 \\
& X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_finseq_1 \\
& X1 (k3_card_3 X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (k3_card_3 X0)) \Rightarrow \\
& (\forall X3.(m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 \\
& X4 k5_numbers) \Rightarrow (\forall X5.(m1_subset_1 X5 k5_numbers) \Rightarrow (\forall X6. \\
& (m1_subset_1 X6 k5_numbers) \Rightarrow (\forall X7.(m1_subset_1 X7 k5_numbers) \Rightarrow \\
& (k5_genealg1 X0 X1 X2 X3 X4 X5 X6 X7 = k1_genealg1 X0 (k4_genealg1 X0 \\
& X1 X2 X3 X4 X5 X6) (k4_genealg1 X0 X2 X1 X3 X4 X5 X6) X7)))))))))) \\
& \hspace{15em} (4)
\end{aligned}$$

Theorem 1

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 \\
& X1 k5_numbers) \Rightarrow (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow (\forall X3. \\
& (m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k5_numbers) \Rightarrow \\
& (\forall X5.((\neg v1_xboole_0 X5) \wedge ((v1_relat_1 X5) \wedge ((v2_relat_1 \\
& X5) \wedge ((v1_funct_1 X5) \wedge (v1_finseq_1 X5)))))) \Rightarrow (\forall X6.(m1_genealg1 \\
& X6 X5) \Rightarrow (\forall X7.(m1_genealg1 X7 X5) \Rightarrow (m1_genealg1 (k5_genealg1 \\
& X5 X6 X7 X0 X1 X2 X3 X4) X5)))))))))
\end{aligned}$$