

t14\_genealg1  
(TMd1sn1ovdvd3WvU5HSdG3hTmTj1Z4kjuBm)

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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  $k3\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & \quad X1 k5\_numbers) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 \\ & \quad X2) \wedge ((v2\_relat\_1 X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2)))))) \Rightarrow \\ & \quad (\forall X3.(m1\_genealg1 X3 X2) \Rightarrow (\forall X4.(m1\_genealg1 X4 X2) \Rightarrow \\ & \quad (m1\_genealg1 (k2\_genealg1 X2 X3 X4 X0 X1) X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((\neg v1\_xboole\_0 \\ & \quad X1) \wedge ((v1\_relat\_1 X1) \wedge ((v2\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 \\ & \quad X1)))))) \Rightarrow (\forall X2.(m1\_genealg1 X2 X1) \Rightarrow (\forall X3.(m1\_genealg1 \\ & \quad X3 X1) \Rightarrow (m1\_genealg1 (k1\_genealg1 X1 X2 X3 X0) X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_relat\_1 X0) \wedge ((v2\_relat\_1 \\ & \quad X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0)))))) \Rightarrow (\forall X1.(m1\_genealg1 \\ & \quad X1 X0) \Rightarrow (m2\_finseq\_1 X1 (k3\_card\_3 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1\_xboole\_0 X0) \wedge ((v1\_relat\_1 X0) \wedge ((v2\_relat\_1 \\
& X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0)))))) \Rightarrow (\forall X1.(m2\_finseq\_1 \\
& X1 (k3\_card\_3 X0)) \Rightarrow (\forall X2.(m2\_finseq\_1 X2 (k3\_card\_3 X0)) \Rightarrow \\
& (\forall X3.(m1\_subset\_1 X3 k5\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1 \\
& X4 k5\_numbers) \Rightarrow (\forall X5.(m1\_subset\_1 X5 k5\_numbers) \Rightarrow (k3\_genealg1 \\
& X0 X1 X2 X3 X4 X5 = k1\_genealg1 X0 (k2\_genealg1 X0 X1 X2 X3 X4) (k2\_genealg1 \\
& X0 X2 X1 X3 X4) X5))))))
\end{aligned} \tag{4}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 X2 k5\_numbers) \Rightarrow (\forall X3. \\
& ((\neg v1\_xboole\_0 X3) \wedge ((v1\_relat\_1 X3) \wedge ((v2\_relat\_1 X3) \wedge ((v1\_funct\_1 \\
& X3) \wedge (v1\_finseq\_1 X3)))))) \Rightarrow (\forall X4.(m1\_genealg1 X4 X3) \Rightarrow (\forall X5. \\
& (m1\_genealg1 X5 X3) \Rightarrow (m1\_genealg1 (k3\_genealg1 X3 X4 X5 X0 X1 X2) \\
& X3))))))
\end{aligned}$$