

t10_genealg1
(TMTL4Bi1JEQcXciogXMjTvLaotVXo9oahDX)

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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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k8_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_card_3 : \iota \Rightarrow \iota$ be given. Let $k4_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.((\neg v1_xboole_0 \\ & X1) \wedge ((v1_relat_1 X1) \wedge ((v2_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_finseq_1 \\ & X1)))))) \Rightarrow (\forall X2.(m1_genealg1 X2 X1) \Rightarrow (\forall X3.(m1_genealg1 \\ & X3 X1) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X2) X0) \Rightarrow (k7_genealg1 X1 X2 X3 \\ & X0 = X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1_xboole_0 \\ & X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 \\ & X0)))))) \wedge ((m1_genealg1 X1 X0) \wedge ((m1_genealg1 X2 X0) \wedge ((m1_subset_1 \\ & X3 k5_numbers) \wedge (m1_subset_1 X4 k5_numbers)))))) \Rightarrow (k8_genealg1 \\ & X0 X1 X2 X3 X4 = k2_genealg1 X0 X1 X2 X3 X4) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 \\ & X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 \\ & X0)))))) \wedge ((m1_genealg1 X1 X0) \wedge ((m1_genealg1 X2 X0) \wedge (m1_subset_1 \\ & X3 k5_numbers)))) \Rightarrow (k7_genealg1 X0 X1 X2 X3 = k1_genealg1 X0 X1 X2 \\ & X3) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m1_genealg1 X1 X0) \Rightarrow (m2_finseq_1 X1 (k3_card_3 X0))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \wedge ((m1_genealg1 X1 X0) \wedge ((m1_genealg1 X2 X0) \wedge (m1_subset_1 X3 k5_numbers)))) \Rightarrow (m1_genealg1 (k7_genealg1 X0 X1 X2 X3) X0) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_finseq_1 X1 (k3_card_3 X0)) \Rightarrow (\forall X2.(m2_finseq_1 X2 (k3_card_3 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 k5_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k5_numbers) \Rightarrow (k2_genealg1 X0 X1 X2 X3 X4 = k1_genealg1 X0 (k1_genealg1 X0 X1 X2 X3) (k1_genealg1 X0 X2 X1 X3) X4)))))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge ((v1_relat_1 X0) \wedge ((v2_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0)))))) \Rightarrow (\forall X1.(m2_finseq_1 X1 (k3_card_3 X0)) \Rightarrow ((m1_genealg1 X1 X0) \Leftrightarrow ((k3_finseq_1 X1 = k3_finseq_1 X0) \wedge (\forall X2.(m1_subset_1 X2 k5_numbers) \Rightarrow ((X2 \in k4_finseq_1 X1) \Rightarrow (k1_funct_1 X1 X2 \in k1_funct_1 X0 X2)))))) \quad (7)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k5_numbers) \Rightarrow (\forall X1.(m1_subset_1 X1 k5_numbers) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v1_relat_1 X2) \wedge ((v2_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_finseq_1 X2)))))) \Rightarrow (\forall X3.(m1_genealg1 X3 X2) \Rightarrow (\forall X4.(m1_genealg1 X4 X2) \Rightarrow ((r1_xreal_0 (k3_finseq_1 X3) X0) \Rightarrow (k8_genealg1 X2 X3 X4 X1 X0 = k7_genealg1 X2 X3 X4 X1))))))$$