

t20\_genealg1  
(TML5R7NJHT2m9EnQUuV4aVxTdnB2dxZY9G7)

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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  $k9\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_genealg1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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. 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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\ & (((\neg v1\_xboole\_0 X0) \wedge ((v1\_relat\_1 X0) \wedge ((v2\_relat\_1 X0) \wedge ((v1\_funct\_1 \\ & X0) \wedge (v1\_finseq\_1 X0)))))) \wedge ((m1\_genealg1 X1 X0) \wedge ((m1\_genealg1 \\ & X2 X0) \wedge ((m1\_subset\_1 X3 k5\_numbers) \wedge ((m1\_subset\_1 X4 k5\_numbers) \wedge \\ & (m1\_subset\_1 X5 k5\_numbers)))))) \Rightarrow (k9\_genealg1 X0 X1 X2 X3 X4 X5 = \\ & k3\_genealg1 X0 X1 X2 X3 X4 X5) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1\_xboole\_0 \\ & X0) \wedge ((v1\_relat\_1 X0) \wedge ((v2\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 \\ & X0)))))) \wedge ((m1\_genealg1 X1 X0) \wedge ((m1\_genealg1 X2 X0) \wedge ((m1\_subset\_1 \\ & X3 k5\_numbers) \wedge (m1\_subset\_1 X4 k5\_numbers)))))) \Rightarrow (k8\_genealg1 \\ & X0 X1 X2 X3 X4 = k2\_genealg1 X0 X1 X2 X3 X4) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((\neg v1\_xboole\_0 X0)\wedge((v1\_relat\_1 X0)\wedge((v2\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0))))))\wedge((m1\_genealg1 X1 X0)\wedge((m1\_genealg1 X2 X0)\wedge(m1\_subset\_1 X3 k5\_numbers))))\Rightarrow(k7\_genealg1 X0 X1 X2 X3 = k1\_genealg1 X0 X1 X2 X3)$$
(4)

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge((v1\_relat\_1 X0)\wedge((v2\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0))))))\Rightarrow(\forall X1.(m1\_genealg1 X1 X0)\Rightarrow(m2\_finseq\_1 X1 (k3\_card\_3 X0)))$$
(5)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.(((\neg v1\_xboole\_0 X0)\wedge((v1\_relat\_1 X0)\wedge((v2\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0))))))\wedge((m1\_genealg1 X1 X0)\wedge((m1\_genealg1 X2 X0)\wedge((m1\_subset\_1 X3 k5\_numbers)\wedge(m1\_subset\_1 X4 k5\_numbers))))))\Rightarrow(m1\_genealg1 (k8\_genealg1 X0 X1 X2 X3 X4) X0)$$
(6)

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge((v1\_relat\_1 X0)\wedge((v2\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0))))))\Rightarrow(\forall X1.(m2\_finseq\_1 X1 (k3\_card\_3 X0))\Rightarrow(\forall X2.(m2\_finseq\_1 X2 (k3\_card\_3 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 k5\_numbers)\Rightarrow(\forall X4.(m1\_subset\_1 X4 k5\_numbers)\Rightarrow(\forall X5.(m1\_subset\_1 X5 k5\_numbers)\Rightarrow(k3\_genealg1 X0 X1 X2 X3 X4 X5 = k1\_genealg1 X0 (k2\_genealg1 X0 X1 X2 X3 X4) (k2\_genealg1 X0 X2 X1 X3 X4) X5))))))$$
(7)

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge((v1\_relat\_1 X0)\wedge((v2\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_finseq\_1 X0))))))\Rightarrow(\forall X1.(m2\_finseq\_1 X1 (k3\_card\_3 X0))\Rightarrow((m1\_genealg1 X1 X0)\Leftrightarrow((k3\_finseq\_1 X1 = k3\_finseq\_1 X0)\wedge(\forall X2.(m1\_subset\_1 X2 k5\_numbers)\Rightarrow((X2 \in k4\_finseq\_1 X1)\Rightarrow(k1\_funct\_1 X1 X2 \in k1\_funct\_1 X0 X2))))))$$
(8)

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k5\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1 X1 k5\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1 X2 k5\_numbers)\Rightarrow(\forall X3.((\neg v1\_xboole\_0 X3)\wedge((v1\_relat\_1 X3)\wedge((v2\_relat\_1 X3)\wedge((v1\_funct\_1 X3)\wedge(v1\_finseq\_1 X3))))))\Rightarrow(\forall X4.(m1\_genealg1 X4 X3)\Rightarrow(\forall X5.(m1\_genealg1 X5 X3)\Rightarrow((r1\_xxreal\_0 (k3\_finseq\_1 X4) X0)\Rightarrow(k9\_genealg1 X3 X4 X5 X1 X2 X0 = k8\_genealg1 X3 X4 X5 X1 X2))))))$$