

l16_fomodel0

(TMWuLc39zyWSYAQWz1zBsykB4JALka5TxoT)

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Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_monoid_0 : \iota \Rightarrow \iota$ be given. Let $k1_monoid_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_finseq_2 : \iota \Rightarrow \iota$ be given. Let $k13_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k7_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $k9_monoid_0 : \iota \Rightarrow \iota$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v2_monoid_0 : \iota \Rightarrow o$ be given. Let $v16_monoid_0 : \iota \Rightarrow o$ be given. Let $v17_monoid_0 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X1) \wedge \\ & ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0)))) \wedge ((m1_subset_1 X2 X0) \wedge \\ & (m1_subset_1 X3 X0))) \Rightarrow (k5_binop_1 X0 X1 X2 X3 = k1_binop_1 X1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. k3_finseq_2 X0 = k13_finseq_1 X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1_finseq_1 X1 X0) \wedge (m1_finseq_1 X2 X0)) \Rightarrow (k1_monoid_0 X0 X1 X2 = k7_finseq_1 X1 X2) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (l3_algstr_0 X0) \Rightarrow & ((v1_funct_1 (u2_algstr_0 X0)) \wedge \\ & ((v1_funct_2 (u2_algstr_0 X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_algstr_0 \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & ((\neg v2_struct_0 (k9_monoid_0 X0)) \wedge \\ & ((v15_algstr_0 (k9_monoid_0 X0)) \wedge ((v1_group_1 (k9_monoid_0 \\ & X0)) \wedge ((v3_group_1 (k9_monoid_0 X0)) \wedge ((v2_monoid_0 (k9_monoid_0 \\ & X0)) \wedge ((v16_monoid_0 (k9_monoid_0 X0)) \wedge ((v17_monoid_0 (k9_monoid_0 \\ & X0)) \wedge (l3_algstr_0 (k9_monoid_0 X0)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (\neg v1_xboole_0 X0) \Rightarrow (k11_monoid_0 X0 = u2_algstr_0 (k9_monoid_0 X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & (\forall X1. ((\neg v2_struct_0 X1) \wedge \\ & ((v15_algstr_0 X1) \wedge ((v1_group_1 X1) \wedge ((v3_group_1 X1) \wedge ((v2_monoid_0 \\ & X1) \wedge ((v16_monoid_0 X1) \wedge ((v17_monoid_0 X1) \wedge (l3_algstr_0 X1)))))))))) \Rightarrow \\ & ((X1 = k9_monoid_0 X0) \Leftrightarrow ((u1_struct_0 X1 = k3_finseq_2 X0) \wedge (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X1)) \Rightarrow (k6_algstr_0 X1 X2 X3 = k7_finseq_1 X2 X3)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. (l3_algstr_0 X0) \Rightarrow & (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k6_algstr_0 \\ & X0 X1 X2 = k5_binop_1 (u1_struct_0 X0) (u2_algstr_0 X0) X1 X2))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k13_finseq_1 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (m2_finseq_1 X2 X0)) \quad (11)$$

Theorem 1

$$\begin{aligned} \forall X0. (\neg v1_xboole_0 X0) \Rightarrow & (\forall X1. (m2_finseq_1 X1 X0) \Rightarrow \\ & (\forall X2. (m2_finseq_1 X2 X0) \Rightarrow (k1_binop_1 (k11_monoid_0 X0) \\ & X1 X2 = k1_monoid_0 X0 X1 X2))) \end{aligned}$$