

l39_monoid_0

(TMG949KCxro9MRy8LuewEKcaaMqMLb91ioi)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $v16_monoid_0 : \iota \Rightarrow o$ be given. Let $v14_monoid_0 : \iota \Rightarrow o$ be given. Let $v15_monoid_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow ((v16_monoid_0 \\ X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow (((k6_algstr_0 X0 X1 X2 = k6_algstr_0 X0 X1 X3) \vee \\ (k6_algstr_0 X0 X2 X1 = k6_algstr_0 X0 X3 X1)) \Rightarrow (X2 = X3))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow ((v15_monoid_0 \\ X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X2 X1 = k6_algstr_0 X0 X3 X1) \Rightarrow \\ (X2 = X3))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow ((v14_monoid_0 \\ X0) \Leftrightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ (u1_struct_0 X0)) \Rightarrow ((k6_algstr_0 X0 X1 X2 = k6_algstr_0 X0 X1 X3) \Rightarrow \\ (X2 = X3))))))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge (l3_algstr_0 X0)) \Rightarrow ((v16_monoid_0 \\ X0) \Leftrightarrow ((v14_monoid_0 X0) \wedge (v15_monoid_0 X0))) \end{aligned}$$