

t49_monoid_0 (TM-
SrX9SCEaCKJkF3EmRPpx5rNXkNWPr9MVv)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_monoid_0 : \iota$ be given. Let $k1_numbers : \iota$ 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 $g3_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v5_group_1 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k35_binop_2 : \iota$ be given. Let $u2_algstr_0 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 \\ & X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))) \Rightarrow (\forall X2. \forall X3. (g3_algstr_0 X0 X1 = g3_algstr_0 \\ & X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 k6_monoid_0) \wedge ((v15_algstr_0 k6_monoid_0) \wedge ((\\ & v1_group_1 k6_monoid_0) \wedge ((v3_group_1 k6_monoid_0) \wedge ((v5_group_1 \\ & k6_monoid_0) \wedge (l3_algstr_0 k6_monoid_0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k35_binop_2) \wedge ((v1_funct_2 k35_binop_2 (k2_zfmisc_1 \\ & k1_numbers k1_numbers) k1_numbers) \wedge (m1_subset_1 k35_binop_2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers) \\ & k1_numbers)))) \end{aligned} \tag{3}$$

Assume the following.

$$k6_monoid_0 = g3_algstr_0 k1_numbers k35_binop_2 \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_algstr_0 X0) \Rightarrow ((v15_algstr_0 X0) \Rightarrow (X0 = g3_algstr_0 \\ & (u1_struct_0 X0) (u2_algstr_0 X0))) \end{aligned} \tag{5}$$

Theorem 1

$$\forall X_0. (m1_subset_1 X_0 (u1_struct_0 k6_monoid_0)) \Leftrightarrow (m1_subset_1 X_0 k1_numbers)$$