

t48_monoid_0 (TMUf-
STaWEQa4q5A84Hu56m6wuVZvKKX2bwq)

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Let $r3_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k47_binop_2 : \iota$ be given. Let $v9_monoid_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_monoid_0 : \iota$ be given. Let $g3_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_ordinal1 : \iota$ 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 $v17_monoid_0 : \iota \Rightarrow o$ be given. Let $m5_monoid_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_monoid_0 : \iota$ be given. Let $k3_monoid_0 : \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ 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. Assume the following.

$$k4_monoid_0 = g3_algstr_0 \ k5_numbers \ k47_binop_2 \quad (1)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (2)$$

Assume the following.

$$r3_binop_1 \ k5_numbers \ k6_numbers \ k47_binop_2 \quad (3)$$

Assume the following.

$$\begin{aligned} & (\neg v2_struct_0 \ k4_monoid_0) \wedge ((v15_algstr_0 \ k4_monoid_0) \wedge ((\\ & v1_group_1 \ k4_monoid_0) \wedge ((v17_monoid_0 \ k4_monoid_0) \wedge (m5_monoid_0 \\ & \quad k4_monoid_0 \ k2_monoid_0 \ k3_monoid_0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 \ k47_binop_2) \wedge ((v1_funct_2 \ k47_binop_2 \ (k2_zfmisc_1 \\ & \ k5_numbers \ k5_numbers) \ k5_numbers) \wedge (m1_subset_1 \ k47_binop_2 \\ & \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k2_zfmisc_1 \ k5_numbers \ k5_numbers) \\ & \quad k5_numbers)))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X1)\wedge((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0))))))\Rightarrow((v15_algstr_0 (g3_algstr_0 X0 X1))\wedge(l3_algstr_0 (g3_algstr_0 X0 X1))) \quad (6)$$

Assume the following.

$$k47_binop_2 = u2_algstr_0 k4_monoid_0 \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v15_algstr_0 X0)\wedge((v1_group_1 X0)\wedge((v17_monoid_0 X0)\wedge(m5_monoid_0 X0 k2_monoid_0 k3_monoid_0))))))\Rightarrow ((X0 = k4_monoid_0)\Leftrightarrow(u1_struct_0 X0 = k5_numbers)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l3_algstr_0 X0))\Rightarrow((v17_monoid_0 X0)\Leftrightarrow(v9_monoid_0 (u2_algstr_0 X0) (u1_struct_0 X0))) \quad (9)$$

Theorem 1

$$(r3_binop_1 k5_numbers k6_numbers k47_binop_2)\wedge(v9_monoid_0 k47_binop_2 k5_numbers)$$