

t68_monoid_0 (TMRS-
PaYipx18fGvVLoQJ9WUU39fF6YxsFMe)

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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 $k12_monoid_0 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v15_algstr_0 : \iota \Rightarrow o$ be given. Let $v1_monoid_0 : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 \in k4_partfun1\ X0\ X1) \Rightarrow ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_funct_1\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))) \Rightarrow (X2 \in k4_partfun1\ X0\ X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1\ X0\ X1) \Rightarrow ((v1_xboole_0\ X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1\ X0\ X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1_xboole_0\ (k4_partfun1\ X0\ X1) \quad (5)$$

Assume the following.

$$\forall X0. (v15_algstr_0\ (k12_monoid_0\ X0)) \wedge ((v1_monoid_0\ (k12_monoid_0\ X0)) \wedge (l3_algstr_0\ (k12_monoid_0\ X0))) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v15_algstr_0\ X1) \wedge ((v1_monoid_0\ X1) \wedge \\ & (l3_algstr_0\ X1))) \Rightarrow ((X1 = k12_monoid_0\ X0) \Leftrightarrow ((u1_struct_0\ X1 = \\ & k4_partfun1\ X0\ X0) \wedge (\forall X2. (m1_subset_1\ X2\ (u1_struct_0\ X1)) \Rightarrow \\ & (\forall X3. (m1_subset_1\ X3\ (u1_struct_0\ X1)) \Rightarrow (k6_algstr_0\ X1 \\ & X2\ X3 = k3_relat_1\ X2\ X3)))))) \quad (7) \end{aligned}$$

Theorem 1

$$\forall X0.\forall X1.(m1_subset_1 X0 (u1_struct_0 (k12_monoid_0 X1))) \Leftrightarrow ((v1_funct_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 X1 X1))))$$