

# t73\_monoid\_0 (TMXn- huBXd5V9wCZTaydZ8UajbNwAmr5wKGT)

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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  $k15\_monoid\_0 : \iota \Rightarrow \iota$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m2\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_monoid\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge ((v1\_funct\_2 X1 X0 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X0)))) \Rightarrow (X1 \in k1\_funct\_2 X0 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (X2 \in k1\_funct\_2 X0 X1) \Rightarrow ((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X0 X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \quad (2)$$

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.

$$\forall X0. \neg v1\_xboole\_0 (k1\_funct\_2 X0 X0) \quad (5)$$

Assume the following.

$$\forall X0. (v15\_algstr\_0 (k15\_monoid\_0 X0)) \wedge (m2\_monoid\_0 (k15\_monoid\_0 X0) (k12\_monoid\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v15\_algstr\_0 X1)\wedge(m2\_monoid\_0 X1 (k12\_monoid\_0 X0)))\Rightarrow((X1 = k15\_monoid\_0 X0)\Leftrightarrow(u1\_struct\_0 X1 = k1\_funct\_2 X0 X0)) \quad (7)$$

**Theorem 1**

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (u1\_struct\_0 (k15\_monoid\_0 X1)))\Leftrightarrow((v1\_funct\_1 X0)\wedge((v1\_funct\_2 X0 X1 X1)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X1))))))$$