

# t42\_monoid\_0 (TMaAn- CLR1hZ1KoqcmxZcLeRsJ9m7M4tarGg)

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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  $k3\_monoid\_0 : \iota$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v15\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m2\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_monoid\_0 : \iota$  be given. Let  $k4\_numbers : \iota$  be given. Let  $k2\_gr\_cy\_1 : \iota$  be given. Let  $k5\_gr\_cy\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v15\_algstr\_0 X0) \wedge (m2\_monoid\_0 X0 k2\_monoid\_0))) \Rightarrow ((X0 = k3\_monoid\_0) \Leftrightarrow (u1\_struct\_0 X0 = k4\_numbers)) \quad (1)$$

Assume the following.

$$k3\_monoid\_0 = k2\_gr\_cy\_1 \quad (2)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (m1\_subset\_1 (k5\_gr\_cy\_1 X0) (u1\_struct\_0 k2\_gr\_cy\_1)) \quad (3)$$

Assume the following.

$$(\neg v2\_struct\_0 k3\_monoid\_0) \wedge ((v15\_algstr\_0 k3\_monoid\_0) \wedge (m2\_monoid\_0 k3\_monoid\_0 k2\_monoid\_0)) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_int\_1 X0) \Rightarrow (k5\_gr\_cy\_1 X0 = X0) \quad (5)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_numbers) \Rightarrow (v1\_int\_1 X0) \quad (6)$$

**Theorem 1**  $\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k3\_monoid\_0)) \Leftrightarrow (v1\_int\_1 X0).$