

t55\_monoid\_0  
(TMV2EmPtoqGscC2xzejD18Bm1BPxt4Ero5bg)

October 27, 2020

Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k8\_monoid\_0 : \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k24\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_monoid\_0 : \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $m2\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v22\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  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  $k6\_monoid\_0 : \iota$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 X0 k1\_numbers k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1 X1 k1\_numbers k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 k7\_monoid\_0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & k7\_monoid\_0)) \Rightarrow (((X0 = X2) \wedge (X1 = X3)) \Rightarrow (k6\_algstr\_0 k7\_monoid\_0 \\ & X2 X3 = k24\_binop\_2 X0 X1)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \Rightarrow (\forall X1. \\ & (m1\_monoid\_0 X1 X0) \Rightarrow ((u1\_struct\_0 X1 = u1\_struct\_0 X0) \wedge ((r1\_funct\_2 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X1) (u1\_struct\_0 X1)) (u1\_struct\_0 \\ & X1) (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)) (u1\_struct\_0 \\ & X0) (u2\_algstr\_0 X1) (u2\_algstr\_0 X0)) \wedge (\forall X2.(m1\_subset\_1 \\ & X2 (u1\_struct\_0 X1)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ & X1)) \Rightarrow (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\forall X5. \\ & (m1\_subset\_1 X5 (u1\_struct\_0 X0)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (k6\_algstr\_0 \\ & X1 X2 X3 = k6\_algstr\_0 X0 X4 X5)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0 X0) \Rightarrow (\forall X1.(m2\_monoid\_0 X1 X0) \Rightarrow (l3\_algstr\_0 X1)) \tag{3}$$

Assume the following.

$$(\neg v2\_struct\_0\ k8\_monoid\_0) \wedge ((v22\_algstr\_0\ k8\_monoid\_0) \wedge ((v4\_vectsp\_1\ k8\_monoid\_0) \wedge (m1\_monoid\_0\ k8\_monoid\_0\ k7\_monoid\_0))) \quad (4)$$

Assume the following.

$$(\neg v2\_struct\_0\ k7\_monoid\_0) \wedge ((v15\_algstr\_0\ k7\_monoid\_0) \wedge ((v1\_group\_1\ k7\_monoid\_0) \wedge ((v17\_monoid\_0\ k7\_monoid\_0) \wedge (m2\_monoid\_0\ k7\_monoid\_0\ k6\_monoid\_0)))) \quad (5)$$

Assume the following.

$$(\neg v2\_struct\_0\ k6\_monoid\_0) \wedge ((v15\_algstr\_0\ k6\_monoid\_0) \wedge ((v1\_group\_1\ k6\_monoid\_0) \wedge ((v3\_group\_1\ k6\_monoid\_0) \wedge ((v5\_group\_1\ k6\_monoid\_0) \wedge (l3\_algstr\_0\ k6\_monoid\_0))))) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X1. \\ & (m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2\ (u1\_struct\_0\ k8\_monoid\_0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0 \\ & k8\_monoid\_0)) \Rightarrow (((X0 = X2) \wedge (X1 = X3)) \Rightarrow (k6\_algstr\_0\ k8\_monoid\_0 \\ & X2\ X3 = k24\_binop\_2\ X0\ X1)))))) \end{aligned}$$