t45_monoid_0 (TMXVnt-tNiZ3TMhS1zEBeCxZTpjjfLKAaXMT)

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 $k5\_monoid\_0 : \iota$ be given. Let $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k23\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $m2\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_monoid\_0 : \iota$ be given. Let $k9\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $m5\_monoid\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v22\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v4\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $k4\_monoid\_0 : \iota$ 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 $k3\_monoid\_0 : \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (m2\_monoid\_0\ X0\ k2\_monoid\_0)) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ k1\_numbers) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow (((X1 = X3) \wedge (X2 = X4)) \Rightarrow (k6\_algstr\_0\ X0\ X1\ X2 = k9\_binop\_2\ X3\ X4)))))) \tag{1}$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(k9\_binop\_2\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{4}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow(k23\_binop\_2\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \tag{6}$$

Assume the following.

$$(\neg v1\_xboole\_0\ k4\_ordinal1)\wedge(v3\_ordinal1\ k4\_ordinal1) \tag{7}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((l3\_algstr\_0\ X0)\wedge(m2\_monoid\_0\ X1\ X0))\Rightarrow(\forall X2.(m5\_monoid\_0\ X2\ X0\ X1)\Rightarrow(m2\_monoid\_0\ X2\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(l3\_algstr\_0\ X0)\Rightarrow(\forall X1.(m2\_monoid\_0\ X1\ X0)\Rightarrow(l3\_algstr\_0\ X1)) \tag{11}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{12}$$

Assume the following.

$$(\neg v2\_struct\_0\ k5\_monoid\_0)\wedge((v22\_algstr\_0\ k5\_monoid\_0)\wedge((v4\_vectsp\_1\ k5\_monoid\_0)\wedge(m1\_monoid\_0\ k5\_monoid\_0\ k4\_monoid\_0))) \tag{13}$$

Assume the following.

$$(\neg v2\_struct\_0\ k4\_monoid\_0)\wedge((v15\_algstr\_0\ k4\_monoid\_0)\wedge((v1\_group\_1\ k4\_monoid\_0)\wedge((v17\_monoid\_0\ k4\_monoid\_0)\wedge(m5\_monoid\_0\ k4\_monoid\_0\ k2\_monoid\_0\ k3\_monoid\_0)))) \tag{14}$$

Assume the following.

$$(\neg v2\_struct\_0\ k3\_monoid\_0)\wedge((v15\_algstr\_0\ k3\_monoid\_0)\wedge(m2\_monoid\_0\ k3\_monoid\_0\ k2\_monoid\_0)) \tag{15}$$

Assume the following.

$$(\neg v2\_struct\_0\ k2\_monoid\_0)\wedge(l3\_algstr\_0\ k2\_monoid\_0) \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{18}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \tag{19}$$

Theorem 1

$$\forall X0.(m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ k5\_monoid\_0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ k5\_monoid\_0))\Rightarrow(((X0 = X2)\wedge(X1 = X3))\Rightarrow(k6\_algstr\_0\ k5\_monoid\_0\ X2\ X3 = k23\_binop\_2\ X0\ X1)))))$$