t1_msafree2 (TMEkuh-wDZ6BrPwZhH6ABmV4ytGUGww3aYcZ)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v11\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_msualg\_1 : \iota \Rightarrow o$ be given. Let $k2\_msafree2 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $l5\_struct\_0 : \iota \Rightarrow o$ be given. Let $u4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $u2\_msualg\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{1}$$

Assume the following.

$$\forall X0.k4\_xboole\_0\ X0\ k1\_xboole\_0 = X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1\ X0\ X1 = k4\_xboole\_0\ X0\ X1 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v5\_relat\_1\ X1\ X0)) \Rightarrow (k2\_relset\_1\ X0\ X1 = k10\_xtuple\_0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.((v11\_struct\_0\ X0) \wedge (l5\_struct\_0\ X0)) \Rightarrow (v1\_xboole\_0\ (u4\_struct\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v1\_xboole\_0\ (k10\_xtuple\_0\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0) \Rightarrow ((v1\_funct\_1\ (u2\_msualg\_1\ X0)) \wedge ((v1\_funct\_2\ (u2\_msualg\_1\ X0)\ (u4\_struct\_0\ X0)\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ (u2\_msualg\_1\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u4\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))))) \tag{7}$$

Assume the following.

$$\forall X0.(l1\_msualg\_1\ X0) \Rightarrow (l5\_struct\_0\ X0) \tag{8}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0)) \Rightarrow (k2\_msafree2\ X0 = k6\_subset\_1\ (u1\_struct\_0\ X0)\ (k2\_relset\_1\ (u1\_struct\_0\ X0)\ (u2\_msualg\_1\ X0))) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)) \Rightarrow ((v1\_xboole\_0\ X1) \wedge ((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow ((v4\_relat\_1\ X2\ X0) \wedge (v5\_relat\_1\ X2\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v1\_relat\_1\ X2) \tag{12}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v11\_struct\_0\ X0) \wedge (l1\_msualg\_1\ X0))) \Rightarrow (k2\_msafree2\ X0 = u1\_struct\_0\ X0)$$