# t1_msafree (TMGjs65YdPH5RJJyVKdhS8RKBx1QLsuWzZ8)

October 27, 2020

Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k3\_finseq\_2 : \iota \Rightarrow \iota$ 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 $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k13\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (\forall X2.\ ((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((X0 \in k9\_xtuple\_0\ (k3\_relat\_1\ X2\ X1)) \Rightarrow (k1\_funct\_1\ (k3\_relat\_1\ X2\ X1)\ X0 = k1\_funct\_1\ X1\ (k1\_funct\_1\ X2\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.k3\_finseq\_2\ X0 = k13\_finseq\_1\ X0 \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)) \Rightarrow (k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X1) \wedge (((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge ((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1\ X3\ X1) \wedge ((v1\_funct\_1\ X3) \wedge (v1\_partfun1\ X3\ X1)))))) \Rightarrow ((v1\_relat\_1\ (k3\_relat\_1\ X2\ X3)) \wedge ((v4\_relat\_1\ (k3\_relat\_1\ X2\ X3)\ X0) \wedge ((v1\_funct\_1\ (k3\_relat\_1\ X2\ X3)) \wedge (v1\_partfun1\ (k3\_relat\_1\ X2\ X3)\ X0)))) \tag{4}$$

Assume the following.

$$\forall X0.\neg v1\_xboole\_0\ (k13\_finseq\_1\ X0) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow((v1\_relat\_1\ (k6\_finseq\_2\ X0\ X1))\wedge((v4\_relat\_1\ (k6\_finseq\_2\ X0\ X1)\ (k3\_finseq\_2\ X0))\wedge((v1\_funct\_1\ (k6\_finseq\_2\ X0\ X1))\wedge(v1\_partfun1\ (k6\_finseq\_2\ X0\ X1)\ (k3\_finseq\_2\ X0))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge((v1\_funct\_1\ X1)\wedge(v1\_partfun1\ X1\ X0))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ (k3\_finseq\_2\ X0))\wedge((v1\_funct\_1\ X2)\wedge(v1\_partfun1\ X2\ (k3\_finseq\_2\ X0)))))\Rightarrow((X2 = k6\_finseq\_2\ X0\ X1)\Leftrightarrow(\forall X3.(m2\_finseq\_2\ X3\ X0\ (k3\_finseq\_2\ X0))\Rightarrow(k1\_funct\_1\ X2\ X3 = k4\_card\_3\ (k3\_relat\_1\ X3\ X1))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow((v1\_partfun1\ X1\ X0)\Leftrightarrow(k1\_relset\_1\ X0\ X1 = X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{9}$$

**Theorem 1**

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ (k3\_finseq\_2\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ (k3\_finseq\_2\ X1)))))))\Rightarrow(\forall X3.((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ X1)\wedge((v1\_funct\_1\ X3)\wedge(v1\_partfun1\ X3\ X1))))\Rightarrow(\forall X4.(m2\_finseq\_2\ X4\ X1\ (k3\_finseq\_2\ X1))\Rightarrow(\forall X5.((X5\in X0)\wedge(X4 = k1\_funct\_1\ X2\ X5))\Rightarrow(k1\_funct\_1\ (k3\_relat\_1\ X2\ (k6\_finseq\_2\ X1\ X3))\ X5 = k4\_card\_3\ (k3\_relat\_1\ X4\ X3))))))$$