

t10\_scmfsa\_1  
(TMR5Nstrqk8jzLdphqS12qWs4vumCvEsztd)

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Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_scmfsa\_1 : \iota$  be given. Let  $k2\_scmfsa\_1 : \iota$  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  $k4\_scmfsa\_1 : \iota$  be given. Let  $k5\_scmfsa\_1 : \iota$  be given. Let  $k4\_numbers : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k7\_afinsq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_scm\_inst : \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k3\_finseq\_2 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_relat\_1 X3) \wedge \\ & ((v5\_ordinal1 X3) \wedge ((v1\_funct\_1 X3) \wedge (v1\_finset\_1 X3)))) \Rightarrow ((X3 = \\ & k7\_afinsq\_1 X0 X1 X2) \Leftrightarrow ((k1\_afinsq\_1 X3 = np\_3) \wedge ((k1\_funct\_1 X3 \\ & k6\_numbers = X0) \wedge ((k1\_funct\_1 X3 np\_1 = X1) \wedge (k1\_funct\_1 X3 np\_2 = \\ & X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\ & (k3\_relat\_1 X1 X2) X0 = k1\_funct\_1 X2 (k1\_funct\_1 X1 X0)))) \end{aligned} \tag{3}$$

Assume the following.

$$\neg v1\_xboole\_0 \ np\_3 \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 \ X0)\wedge \\ & (((v1\_funct\_1 \ X2)\wedge((v1\_funct\_2 \ X2 \ X0 \ X1)\wedge(m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 \ X0 \ X1))))))\wedge(m1\_subset\_1 \ X3 \ X0)))\Rightarrow(k3\_funct\_2 \ X0 \\ & X1 \ X2 \ X3 = k1\_funct\_1 \ X2 \ X3) \end{aligned} \tag{5}$$

Assume the following.

$$k2\_scmfsa\_1 = k2\_scm\_inst \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1 \ X1)\wedge(v4\_relat\_1 \ X1 \ X0))\Rightarrow( \\ & k1\_relset\_1 \ X0 \ X1 = k9\_xtuple\_0 \ X1) \end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2\_subset\_1 \ X0 \ k1\_scmfsa\_1 \ k2\_scmfsa\_1)\Rightarrow(k3\_funct\_2 \\ & k1\_scmfsa\_1 \ np\_3 \ k4\_scmfsa\_1 \ X0 = np\_1) \end{aligned} \tag{8}$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \tag{9}$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_scmfsa\_1 \tag{10}$$

Assume the following.

$$\neg v1\_xboole\_0 \ k2\_scm\_inst \tag{11}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v5\_ordinal1 \ (k7\_afinsq\_1 \ X0 \\ & X1 \ X2))\wedge(v1\_finset\_1 \ (k7\_afinsq\_1 \ X0 \ X1 \ X2)) \end{aligned} \tag{12}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((\neg v1\_xboole\_0 \ X0)\wedge((\neg v1\_xboole\_0 \ X1)\wedge \\ & (m1\_subset\_1 \ X1 \ (k1\_zfmisc\_1 \ X0))))\Rightarrow(\forall X2.(m2\_subset\_1 \\ & X2 \ X0 \ X1)\Rightarrow(m1\_subset\_1 \ X2 \ X0)) \end{aligned} \tag{13}$$

Assume the following.

$$\begin{aligned} & (v1\_relat\_1 \ k5\_scmfsa\_1)\wedge((v4\_relat\_1 \ k5\_scmfsa\_1 \ np\_3)\wedge( \\ & (v1\_funct\_1 \ k5\_scmfsa\_1)\wedge(v1\_partfun1 \ k5\_scmfsa\_1 \ np\_3))) \end{aligned} \tag{14}$$

Assume the following.

$$(v1\_funct\_1\ k4\_scmfsa\_1) \wedge ((v1\_funct\_2\ k4\_scmfsa\_1\ k1\_scmfsa\_1\ np\_3) \wedge (m1\_subset\_1\ k4\_scmfsa\_1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_scmfsa\_1\ np\_3)))) \quad (15)$$

Assume the following.

$$m1\_subset\_1\ k2\_scmfsa\_1\ (k1\_zfmisc\_1\ k1\_scmfsa\_1) \quad (16)$$

Assume the following.

$$k5\_scmfsa\_1 = k7\_afinsq\_1\ k5\_numbers\ k4\_numbers\ (k3\_finseq\_2\ k4\_numbers) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (((X1 \neq k1\_xboole\_0) \Rightarrow ((v1\_funct\_2\ X2\ X0\ X1) \Leftrightarrow (X0 = k1\_relset\_1\ X0\ X2))) \wedge ((X1 = k1\_xboole\_0) \Rightarrow ((v1\_funct\_2\ X2\ X0\ X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow ((v4\_relat\_1\ X2\ X0) \wedge (v5\_relat\_1\ X2\ X1)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v1\_relat\_1\ X2) \quad (20)$$

**Theorem 1**

$$\forall X0.(m2\_subset\_1\ X0\ k1\_scmfsa\_1\ k2\_scmfsa\_1) \Rightarrow (k1\_funct\_1\ (k3\_relat\_1\ k4\_scmfsa\_1\ k5\_scmfsa\_1)\ X0 = k4\_numbers)$$