

t1\_scmfsa\_2  
(TMQH5xtw75nDpPochZgsvuTxeHyjFJX4XDt)

October 27, 2020

Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k1\_scmfsa\_1 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v2\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v3\_compos\_0 : \iota \Rightarrow o$  be given. Let  $v5\_compos\_0 : \iota \Rightarrow o$  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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  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  $k1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $g1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xbool\_0 : \iota \Rightarrow o$  be given. Let  $k2\_scmfsa\_i : \iota$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $k5\_scmfsa\_1 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k4\_scmfsa\_1 : \iota$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k12\_scmfsa\_1 : \iota$  be given. Let  $u2\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$k5\_numbers \in k1\_scmfsa\_1 \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
& \forall X6.((m1\_subset\_1 X2 X1)\wedge(((v1\_compos\_0 X3)\wedge((v2\_compos\_0 \\
& X3)\wedge((v3\_compos\_0 X3)\wedge(v5\_compos\_0 X3))))\wedge(((v1\_funct\_1 X4)\wedge \\
& ((v1\_funct\_2 X4 X1 X0)\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& X1 X0))))\wedge(((v1\_relat\_1 X5)\wedge((v4\_relat\_1 X5 X0)\wedge((v1\_funct\_1 \\
& X5)\wedge(v1\_partfun1 X5 X0))))\wedge((v1\_funct\_1 X6)\wedge((v1\_funct\_2 X6 \\
& X3 (k1\_funct\_2 (k4\_card\_3 (k3\_relat\_1 X4 X5)) (k4\_card\_3 (k3\_relat\_1 \\
& X4 X5))))\wedge(m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X3 (k1\_funct\_2 \\
& (k4\_card\_3 (k3\_relat\_1 X4 X5)) (k4\_card\_3 (k3\_relat\_1 X4 X5))))))))))\Rightarrow \\
& (\forall X7.\forall X8.\forall X9.\forall X10.\forall X11.\forall X12. \\
& \forall X13.(g1\_extpro\_1 X0 X1 X2 X3 X4 X5 X6 = g1\_extpro\_1 X7 X8 X9 \\
& X10 X11 X12 X13)\Rightarrow((X0 = X7)\wedge((X1 = X8)\wedge((X2 = X9)\wedge((X3 = X10)\wedge((X4 = \\
& X11)\wedge((X5 = X12)\wedge(X6 = X13))))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$(\neg v1\_xboole\_0 k2\_scmf\_sa\_i)\wedge(v5\_compos\_0 k2\_scmf\_sa\_i) \tag{4}$$

Assume the following.

$$(\neg v1\_xboole\_0 k2\_scmf\_sa\_i)\wedge(v3\_compos\_0 k2\_scmf\_sa\_i) \tag{5}$$

Assume the following.

$$(\neg v1\_xboole\_0 k2\_scmf\_sa\_i)\wedge(v2\_compos\_0 k2\_scmf\_sa\_i) \tag{6}$$

Assume the following.

$$(\neg v1\_xboole\_0 k2\_scmf\_sa\_i)\wedge(v1\_compos\_0 k2\_scmf\_sa\_i) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_memstr\_0 X1 X0)\Rightarrow(l2\_struct\_0 X1) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge(l1\_compos\_1 X1)) \tag{9}$$

Assume the following.

$$(v1\_relat\_1 k5\_scmf\_sa\_1)\wedge((v4\_relat\_1 k5\_scmf\_sa\_1 np\_3)\wedge(v1\_funct\_1 k5\_scmf\_sa\_1)\wedge(v1\_partfun1 k5\_scmf\_sa\_1 np\_3)) \tag{10}$$

Assume the following.

$$(v1\_funct\_1 k4\_scmf\_sa\_1)\wedge((v1\_funct\_2 k4\_scmf\_sa\_1 k1\_scmf\_sa\_1 np\_3)\wedge(m1\_subset\_1 k4\_scmf\_sa\_1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_scmf\_sa\_1 np\_3)))) \tag{11}$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmfsa\_2 np\_3) \wedge (l1\_extpro\_1 k1\_scmfsa\_2 np\_3) \quad (12)$$

Assume the following.

$$\begin{aligned} & (v1\_funct\_1 k12\_scmfsa\_1) \wedge ((v1\_funct\_2 k12\_scmfsa\_1 k2\_scmfsa\_i \\ & \quad (k1\_funct\_2 (k4\_card\_3 (k3\_relat\_1 k4\_scmfsa\_1 k5\_scmfsa\_1)) \\ & \quad (k4\_card\_3 (k3\_relat\_1 k4\_scmfsa\_1 k5\_scmfsa\_1)))) \wedge (m1\_subset\_1 \\ & \quad k12\_scmfsa\_1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k2\_scmfsa\_i (k1\_funct\_2 \\ & \quad (k4\_card\_3 (k3\_relat\_1 k4\_scmfsa\_1 k5\_scmfsa\_1)) (k4\_card\_3 \\ & \quad (k3\_relat\_1 k4\_scmfsa\_1 k5\_scmfsa\_1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. (l2\_struct\_0 X0) \Rightarrow (k4\_struct\_0 X0 = u2\_struct\_0 X0) \quad (14)$$

Assume the following.

$$\begin{aligned} k1\_scmfsa\_2 = & g1\_extpro\_1 np\_3 k1\_scmfsa\_1 (k1\_funct\_7 k5\_numbers \\ & k1\_scmfsa\_1) k2\_scmfsa\_i k4\_scmfsa\_1 k5\_scmfsa\_1 k12\_scmfsa\_1 \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (k1\_funct\_7 X0 X1 = X0) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (l1\_extpro\_1 X1 X0) \Rightarrow ((v1\_extpro\_1 X1 X0) \Rightarrow \\ & \quad (X1 = g1\_extpro\_1 X0 (u1\_struct\_0 X1) (u2\_struct\_0 X1) (u1\_compos\_1 \\ & \quad X1) (u1\_memstr\_0 X0 X1) (u2\_memstr\_0 X0 X1) (u1\_extpro\_1 X0 X1))) \end{aligned} \quad (17)$$

**Theorem 1**  $k4\_struct\_0 k1\_scmfsa\_2 = k5\_numbers.$