

t12\_scmfsa\_m  
(TMNet2yVvJkKqk3vwxYh5UzzM4gaf3gmts3)

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Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_scmfsa\_2 : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_int\_1 : \iota \Rightarrow o$  be given. Let  $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. k1\_funct\_1 (k16\_funcop\_1 X0 X1) X0 = X1 \quad (1)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((\neg X0 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\ & (k1\_funct\_4 X2 X1) X0 = k1\_funct\_1 X2 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 k5\_numbers) \Rightarrow (\forall X1.((v1\_ami\_2 \\ X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (\neg X1 \in k1\_relset\_1 \\ (u1\_struct\_0 k1\_scmfsa\_2) (k7\_memstr\_0 np\_3 k1\_scmfsa\_2 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_3) \wedge (m2\_subset\_1 np\_3 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_3 k5\_numbers) \wedge (m1\_subset\_1 np\_3 k1\_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\neg v1\_xboole\_0 np\_3 \quad (6)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (8)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ( \\ k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \end{aligned} \quad (10)$$

Assume the following.

$$(v3\_memstr\_0 k1\_scmfsa\_2 np\_3) \wedge (v1\_extpro\_1 k1\_scmfsa\_2 np\_3) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge (v1\_int\_1 X1)) \Rightarrow ((v1\_relat\_1 (k16\_funcop\_1 X0 \\ X1)) \wedge ((v4\_relat\_1 (k16\_funcop\_1 X0 X1) (u1\_struct\_0 k1\_scmfsa\_2)) \wedge \\ ((v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \wedge ((v5\_funct\_1 (k16\_funcop\_1 \\ X0 X1) (k2\_memstr\_0 np\_3 k1\_scmfsa\_2)) \wedge (v4\_memstr\_0 (k16\_funcop\_1 \\ X0 X1) np\_3 k1\_scmfsa\_2)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} (\neg v2\_struct\_0 k1\_scmfsa\_2) \wedge ((v2\_memstr\_0 k1\_scmfsa\_2 np\_3) \wedge \\ (v1\_extpro\_1 k1\_scmfsa\_2 np\_3)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 (k16\_funcop\_1 X0 X1))\wedge(v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0)\Rightarrow((l1\_memstr\_0 X1 X0)\wedge (l1\_compos\_1 X1)) \quad (15)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((\neg v1\_setfam\_1 X0)\wedge((\neg v2\_struct\_0 \\ &X1)\wedge((v2\_memstr\_0 X1 X0)\wedge((v3\_memstr\_0 X1 X0)\wedge(l1\_memstr\_0 X1 \\ &X0))))\wedge(v7\_ordinal1 X2))\Rightarrow((v1\_relat\_1 (k7\_memstr\_0 X0 X1 X2))\wedge \\ &((v4\_relat\_1 (k7\_memstr\_0 X0 X1 X2) (u1\_struct\_0 X1))\wedge((v1\_funct\_1 \\ &(k7\_memstr\_0 X0 X1 X2))\wedge(v5\_funct\_1 (k7\_memstr\_0 X0 X1 X2) (k2\_memstr\_0 \\ &X0 X1)))))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(v1\_funct\_1 (k7\_funcop\_1 X0 X1))\wedge((v1\_funct\_2 \\ &(k7\_funcop\_1 X0 X1) X0 (k1\_tarski X1))\wedge(m1\_subset\_1 (k7\_funcop\_1 \\ &X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k1\_tarski X1)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow((v1\_ami\_2 (k4\_scmfsa\_2 X0))\wedge(m1\_subset\_1 (k4\_scmfsa\_2 X0) (u1\_struct\_0 k1\_scmfsa\_2))) \quad (18)$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmfsa\_2 np\_3)\wedge(l1\_extpro\_1 k1\_scmfsa\_2 np\_3) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (20)$$

Assume the following.

$$\begin{aligned} &\forall X0.(\neg v1\_setfam\_1 X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge \\ &((v2\_memstr\_0 X1 X0)\wedge((v3\_memstr\_0 X1 X0)\wedge(l1\_memstr\_0 X1 X0))))\Rightarrow \\ &(\forall X2.((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 (u1\_struct\_0 X1))\wedge \\ &((v1\_funct\_1 X2)\wedge(v5\_funct\_1 X2 (k2\_memstr\_0 X0 X1))))))\Rightarrow(k8\_memstr\_0 \\ &X0 X1 X2 = k1\_funct\_4 X2 (k7\_memstr\_0 X0 X1 k6\_numbers))) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_setfam\_1 X0) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge \\ & ((v2\_memstr\_0 X1 X0) \wedge ((v3\_memstr\_0 X1 X0) \wedge (l1\_memstr\_0 X1 X0)))) \Rightarrow \\ & (\forall X2.(v7\_ordinal1 X2) \Rightarrow (k7\_memstr\_0 X0 X1 X2 = k16\_funcop\_1 \\ & (k4\_struct\_0 X1) X2))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (23)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (v1\_int\_1 X0) \quad (24)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0) \wedge (v7\_ordinal1 X0)) \Rightarrow ((\neg v1\_xboole\_0 X0) \wedge ((v7\_ordinal1 X0) \wedge (\neg v1\_setfam\_1 X0))) \quad (25)$$

**Theorem 1**

$$k1\_funct\_1 (k8\_memstr\_0 np\_3 k1\_scmf\_sa\_2 (k16\_funcop\_1 (k4\_scmf\_sa\_2 k6\_numbers) np\_1)) (k4\_scmf\_sa\_2 k6\_numbers) = np\_1$$