

## t24\_scmfsa\_2

(TMR6BYM3wTmsHBc27SXen3HnbJ4SWz2oJL1)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k1\_scmfsa\_2 : \iota$  be given. Let  $k2\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_7 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_compos\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  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  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_3 : \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_ami\_3 : \iota$  be given. Let  $k8\_ami\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v1\_xboole\_0 X0) \wedge (v1\_compos\_0 X0)) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow (k2\_compos\_0 X0 X1 = k4\_xtuple\_0 X1) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. k1\_xtuple\_0 (k4\_tarski X0 X1) = X0 \tag{3}$$

Assume the following.

$$\forall X0. (l1\_compos\_1 X0) \Rightarrow ((v1\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v2\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v3\_compos\_0 (u1\_compos\_1 X0)) \wedge (v5\_compos\_0 (u1\_compos\_1 X0)))))) \tag{4}$$

Assume the following.

$$\forall X0. \forall X1. (l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge (l1\_compos\_1 X1)) \tag{5}$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \wedge (l1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((m1\_subset\_1\ X0\ k5\_numbers) \wedge ((v1\_ami\_2 \\ X1) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2)))) \Rightarrow (m1\_subset\_1 \\ (k12\_scmfsa\_2\ X0\ X1)\ (u1\_compos\_1\ k1\_scmfsa\_2)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7\_ordinal1\ X0) \Rightarrow (\forall X1. ((v1\_ami\_2\ X1) \wedge (m1\_subset\_1 \\ X1\ (u1\_struct\_0\ k1\_ami\_3))) \Rightarrow (k8\_ami\_3\ X0\ X1 = k3\_xtuple\_0\ np\_7 \\ (k9\_finseq\_1\ X0)\ (k9\_finseq\_1\ X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. k4\_xtuple\_0\ X0 = k1\_xtuple\_0\ (k1\_xtuple\_0\ X0) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. k3\_xtuple\_0\ X0\ X1\ X2 = k4\_tarski \\ (k4\_tarski\ X0\ X1)\ X2 \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1. ((v1\_ami\_2 \\ X1) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))) \Rightarrow (\forall X2. \\ (m1\_subset\_1\ X2\ (u1\_compos\_1\ k1\_scmfsa\_2)) \Rightarrow ((X2 = k12\_scmfsa\_2 \\ X0\ X1) \Leftrightarrow (\exists X3. ((v1\_ami\_2\ X3) \wedge (m1\_subset\_1\ X3\ (u1\_struct\_0 \\ k1\_ami\_3)))) \wedge ((X1 = X3) \wedge (X2 = k8\_ami\_3\ X0\ X3)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. (m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (12)$$

Assume the following.

$$\forall X0. (v5\_compos\_0\ X0) \Rightarrow (\neg v1\_xboole\_0\ X0) \quad (13)$$

**Theorem 1**

$$\begin{aligned} \forall X0. (m1\_subset\_1\ X0\ k5\_numbers) \Rightarrow (\forall X1. ((v1\_ami\_2 \\ X1) \wedge (m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))) \Rightarrow (k2\_compos\_0 \\ (u1\_compos\_1\ k1\_scmfsa\_2)\ (k12\_scmfsa\_2\ X0\ X1) = np\_7)) \end{aligned}$$