

## t29\_scmfsa10

(TMHL4J2reFWtZc7NvZuTrSqYMAcbHjgWWR1)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_compos\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $np\_12 : \iota$  be given. Let  $k3\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k2\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_scmfsa\_2 : \iota \Rightarrow o$  be given. Let  $k17\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  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  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $k5\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xtuple\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2)) \Rightarrow (\neg(k2\_compos\_0 \\ (u1\_compos\_1 k1\_scmfsa\_2) X0 = np\_12) \wedge (\forall X1.((v1\_ami\_2 \\ X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2)))) \Rightarrow (\forall X2. \\ (m1\_scmfsa\_2 X2) \Rightarrow (X0 \neq k17\_scmfsa\_2 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_scmfsa\_2 X0) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\ X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) \\ (k17\_scmfsa\_2 X1 X0) = np\_12)) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xtuple\_0 (k4\_tarski X0 X1) = X1 \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.k1\_xtuple\_0 (k4\_tarski X0 X1) = X0 \quad (4)$$

Assume the following.

$$\exists X0.(m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2)) \wedge (v1\_ami\_2 X0) \quad (5)$$

Assume the following.

$$\exists X0.m1\_scmfsa\_2 X0 \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_compos\_1 X0) \Rightarrow & ((v1\_compos\_0 (u1\_compos\_1 X0)) \wedge \\ & ((v2\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v3\_compos\_0 (u1\_compos\_1 \\ & X0)) \wedge (v5\_compos\_0 (u1\_compos\_1 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge (l1\_compos\_1 X1)) \quad (8)$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmfsa\_2 np\_3) \wedge (l1\_extpro\_1 k1\_scmfsa\_2 np\_3) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge (m1\_scmfsa\_2 X1)) \Rightarrow (m1\_subset\_1 (k17\_scmfsa\_2 \\ X0 X1) (u1\_compos\_1 k1\_scmfsa\_2)) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.k5\_xtuple\_0 X0 = k2\_xtuple\_0 (k1\_xtuple\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.k4\_tarski X0 X1 = k2\_tarski (k2\_tarski X0 X1) (k1\_tarski X0) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.k3\_xtuple\_0 X0 X1 X2 = k4\_tarski (k4\_tarski X0 X1) X2 \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v1\_xboole\_0 X0) \wedge (v1\_compos\_0 X0)) \Rightarrow & (\forall X1. \\ (m1\_subset\_1 X1 (k1\_compos\_0 X0)) \Rightarrow & (k3\_compos\_0 X0 X1 = \text{ReplSep} \\ (\text{toset } (\lambda X2 : \iota.m1\_subset\_1 X2 X0)) & (\lambda X2 : \iota.k2\_compos\_0 \\ X0 X2 = X1) & (\lambda X2 : \iota.k5\_xtuple\_0 X2))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarSKI X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (16)$$

Assume the following.

$$\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfSA\_2))) \Rightarrow (\forall X1.(m1\_scmfSA\_2 X1) \Rightarrow (k17\_scmfSA\_2 X0 X1 = k3\_xtuple\_0 np\_12 k1\_xboole\_0 (k10\_finseq\_1 X0 X1))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1\_tarSKI X0 X1) \wedge (r1\_tarSKI X1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarSKI X0 X1 = k2\_tarSKI X1 X0 \quad (19)$$

Assume the following.

$$\forall X0.(v5\_compos\_0 X0) \Rightarrow (\neg v1\_xboole\_0 X0) \quad (20)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 (k1\_compos\_0 (u1\_compos\_1 k1\_scmfSA\_2))) \Rightarrow ((X0 = np\_12) \Rightarrow (k3\_compos\_0 (u1\_compos\_1 k1\_scmfSA\_2) X0 = k1\_tarSKI k1\_xboole\_0))$$