

## t1\_scmfsa6b

(TMaycf7KwpmbyBLJPHFCZtQb7Zs9DDLQH1W)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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  $np\_3 : \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq\_1 : \iota \Rightarrow o$  be given. Let  $v7\_amistd\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  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  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_setfam\_1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & ((v2\_xxreal\_0 \ np\_3) \wedge (m2\_subset\_1 \ np\_3 \ k1\_numbers \ k5\_numbers)) \wedge \\ & ((m1\_subset\_1 \ np\_3 \ k5\_numbers) \wedge (m1\_subset\_1 \ np\_3 \ k1\_numbers)) \end{aligned} \quad (1)$$

Assume the following.

$$\neg v1\_xboole\_0 \ np\_3 \quad (2)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (3)$$

Assume the following.

$$(v3\_memstr\_0 \ k1\_scmfsa\_2 \ np\_3) \wedge (v1\_extpro\_1 \ k1\_scmfsa\_2 \ np\_3) \quad (4)$$

Assume the following.

$$\begin{aligned} & (\neg v2\_struct\_0 \ k1\_scmfsa\_2) \wedge ((v2\_memstr\_0 \ k1\_scmfsa\_2 \ np\_3) \wedge \\ & (v1\_extpro\_1 \ k1\_scmfsa\_2 \ np\_3)) \end{aligned} \quad (5)$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \wedge (v3\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \quad (6)$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \wedge (l1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1\_setfam\_1\ X0) \Rightarrow (\forall X1. ((\neg v2\_struct\_0\ X1) \wedge \\ & ((v2\_memstr\_0\ X1\ X0) \wedge ((v3\_memstr\_0\ X1\ X0) \wedge ((v3\_extpro\_1\ X1\ X0) \wedge \\ & (l1\_extpro\_1\ X1\ X0)))))) \Rightarrow (\forall X2. ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1 \\ & X2\ k5\_numbers) \wedge ((v5\_relat\_1\ X2\ (u1\_compos\_1\ X1)) \wedge (v1\_funct\_1 \\ & X2)))))) \Rightarrow ((v7\_amistd\_1\ X2\ X0\ X1) \Leftrightarrow (\forall X3. ((v1\_relat\_1\ X3) \wedge \\ & ((v4\_relat\_1\ X3\ (u1\_struct\_0\ X1)) \wedge ((v1\_funct\_1\ X3) \wedge ((v5\_funct\_1 \\ & X3\ (k2\_memstr\_0\ X0\ X1)) \wedge ((v1\_partfun1\ X3\ (u1\_struct\_0\ X1)) \wedge (v5\_memstr\_0 \\ & X3\ X0\ X1\ k6\_numbers)))))) \Rightarrow (\forall X4. ((v1\_relat\_1\ X4) \wedge ((v4\_relat\_1 \\ & X4\ k5\_numbers) \wedge ((v5\_relat\_1\ X4\ (u1\_compos\_1\ X1)) \wedge ((v1\_funct\_1 \\ & X4) \wedge (v1\_partfun1\ X4\ k5\_numbers)))))) \Rightarrow ((r1\_tarski\ X2\ X4) \Rightarrow (r1\_extpro\_1 \\ & X0\ X1\ X4\ X3)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (m1\_subset\_1\ X0\ k4\_ordinal1) \Rightarrow (v7\_ordinal1\ X0) \quad (9)$$

Assume the following.

$$\forall X0. ((\neg v1\_xboole\_0\ X0) \wedge (v7\_ordinal1\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge ((v7\_ordinal1\ X0) \wedge (\neg v1\_setfam\_1\ X0))) \quad (10)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. ((v1\_relat\_1\ X0) \wedge ((v4\_relat\_1\ X0\ (u1\_struct\_0\ k1\_scmfsa\_2)) \wedge \\ & ((v1\_funct\_1\ X0) \wedge ((v5\_funct\_1\ X0\ (k2\_memstr\_0\ np\_3\ k1\_scmfsa\_2)) \wedge \\ & ((v1\_partfun1\ X0\ (u1\_struct\_0\ k1\_scmfsa\_2)) \wedge (v5\_memstr\_0\ X0 \\ & np\_3\ k1\_scmfsa\_2\ k6\_numbers)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ & X1) \wedge ((v4\_relat\_1\ X1\ k5\_numbers) \wedge ((v5\_relat\_1\ X1\ (u1\_compos\_1 \\ & k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_finset\_1 \\ & X1) \wedge ((v1\_afinsq\_1\ X1) \wedge (v7\_amistd\_1\ X1\ np\_3\ k1\_scmfsa\_2)))))))))) \Rightarrow \\ & (\forall X2. ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ k5\_numbers) \wedge (( \\ & v5\_relat\_1\ X2\ (u1\_compos\_1\ k1\_scmfsa\_2)) \wedge ((v1\_funct\_1\ X2) \wedge ( \\ & v1\_partfun1\ X2\ k5\_numbers)))))) \Rightarrow ((r1\_tarski\ X1\ X2) \Rightarrow (r1\_extpro\_1 \\ & np\_3\ k1\_scmfsa\_2\ X2\ X0))) \end{aligned}$$