

t50\_scmfsa8c  
(TMcV3xUKoKxbEbcZRERXrNMJJmf33QAoq46)

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Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $r1\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_scmfsa\_2 : \iota \Rightarrow o$  be given. Let  $k2\_compos\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k17\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_12 : \iota$  be given. Let  $k15\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_10 : \iota$  be given. Let  $k14\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_9 : \iota$  be given. Let  $k10\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_5 : \iota$  be given. Let  $k9\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k8\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k6\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_amistd\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k13\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_scmfsa\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\
& (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\
& (\forall X2.((v1\_ami\_2 X2) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\
& (\forall X3.((v1\_ami\_2 X3) \wedge (m1\_subset\_1 X3 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\
& ((k7\_scmfsa\_2 X0 X1 = k7\_scmfsa\_2 X2 X3) \Rightarrow ((X0 = X2) \wedge (X1 = X3))))))
\end{aligned} \tag{1}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(m1\_scmfsa\_2 X0) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\ X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (\forall X2.((v1\_ami\_2 X2) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (k2\_compos\_0 (u1\_compos\_1 \\ k1\_scmfsa\_2) (k15\_scmfsa\_2 X2 X1 X0) = np\_10))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1\_scmfsa\_2 X0) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 \\ X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (\forall X2.((v1\_ami\_2 X2) \wedge ( \\ m1\_subset\_1 X2 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (k2\_compos\_0 (u1\_compos\_1 \\ k1\_scmfsa\_2) (k14\_scmfsa\_2 X1 X2 X0) = np\_9))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) (k10\_scmfsa\_2 X0 X1) = \\ np\_5)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) (k9\_scmfsa\_2 X0 X1) = np\_4)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) (k8\_scmfsa\_2 X0 X1) = np\_3)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) (k7\_scmfsa\_2 X0 X1) = np\_2)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ (k2\_compos\_0 (u1\_compos\_1 k1\_scmfsa\_2) (k6\_scmfsa\_2 X0 X1) = np\_1)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (10)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (11)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 \\ k1\_scmfsa\_2)))) \Rightarrow (\neg v1\_amistd\_1 (k4\_xtuple\_0 (k7\_scmfsa\_2 X0 \\ X1)) np\_3 k1\_scmfsa\_2) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow (v1\_amistd\_1 ( \\ k4\_xtuple\_0 (k13\_scmfsa\_2 X1 X0)) np\_3 k1\_scmfsa\_2) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow (v1\_amistd\_1 ( \\ k4\_xtuple\_0 (k12\_scmfsa\_2 X1 X0)) np\_3 k1\_scmfsa\_2) \end{aligned} \quad (15)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 \\ k1\_scmfsa\_2))) \wedge ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 \\ k1\_scmfsa\_2)))) \Rightarrow (m1\_subset\_1 (k7\_scmfsa\_2 X0 X1) (u1\_compos\_1 \\ k1\_scmfsa\_2)) \end{aligned} \quad (17)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (18)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2)) \Rightarrow (\forall X1. \\ ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ ((r1\_scmfsa7b X0 X1) \Leftrightarrow (\neg \forall X2. ((v1\_ami\_2 X2) \wedge (m1\_subset\_1 \\ X2 (u1\_struct\_0 k1\_scmfsa\_2)))) \Rightarrow (\forall X3. (m2\_subset\_1 X3 k1\_numbers \\ k5\_numbers) \Rightarrow (\forall X4. (m1\_scmfsa\_2 X4) \Rightarrow ((k6\_scmfsa\_2 X2 X1 \neq \\ X0) \wedge ((k7\_scmfsa\_2 X2 X1 \neq X0) \wedge ((k8\_scmfsa\_2 X2 X1 \neq X0) \wedge ((k9\_scmfsa\_2 \\ X2 X1 \neq X0) \wedge ((k10\_scmfsa\_2 X2 X1 \neq X0) \wedge ((k10\_scmfsa\_2 X1 X2 \neq X0) \wedge \\ ((k12\_scmfsa\_2 X3 X1 \neq X0) \wedge ((k13\_scmfsa\_2 X3 X1 \neq X0) \wedge ((k14\_scmfsa\_2 \\ X2 X1 X4 \neq X0) \wedge ((k15\_scmfsa\_2 X1 X2 X4 \neq X0) \wedge ((k15\_scmfsa\_2 X2 X1 X4 \neq \\ X0) \wedge (k17\_scmfsa\_2 X1 X4 \neq X0)))))))))))))) \end{aligned} \quad (19)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ & (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ & (\forall X2.((v1\_ami\_2 X2) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ & (\neg(X0 \neq X1) \wedge (r1\_scmfsa7b (k7\_scmfsa\_2 X2 X1) X0)))) \end{aligned}$$