

t51\_scmfsa8c  
(TMY3sCM9KKvfriLAQ9GucuXRiR1jJ6mNwrm)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $v1\_ami\_2 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k11\_compos\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k4\_ordinal1 : \iota$  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  $k6\_compos\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_3 : \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(l1\_compos\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_compos\_1 \\ X0)) \Rightarrow (k10\_xtuple\_0 (k11\_compos\_1 X0 X1) = k7\_domain\_1 (u1\_compos\_1 \\ X0) X1 (k2\_compos\_1 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.((v1\_ami\_2 X0) \wedge (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow (\neg r1\_scmfsa7b (k2\_compos\_1 k1\_scmfsa\_2) X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0) \wedge ((m1\_subset\_1 X1 X0) \wedge (m1\_subset\_1 X2 X0))) \Rightarrow (k7\_domain\_1 X0 X1 X2 = k2\_tarski X1 X2) \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\forall X0.(l1\_compos\_1 X0) \Rightarrow ((v1\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v2\_compos\_0 (u1\_compos\_1 X0)) \wedge ((v3\_compos\_0 (u1\_compos\_1 X0)) \wedge (v5\_compos\_0 (u1\_compos\_1 X0))))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge (l1\_compos\_1 X1)) \quad (6)$$

Assume the following.

$$\forall X0.(v5\_compos\_0 X0) \Rightarrow (m1\_subset\_1 (k6\_compos\_0 X0) X0) \quad (7)$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmf\_sa\_2 np\_3) \wedge (l1\_extpro\_1 k1\_scmf\_sa\_2 np\_3) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_compos\_1 X0) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 X0))) \Rightarrow ((v1\_relat\_1 (k11\_compos\_1 X0 X1)) \wedge ((v4\_relat\_1 (k11\_compos\_1 X0 X1) k5\_numbers) \wedge ((v5\_relat\_1 (k11\_compos\_1 X0 X1) (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 (k11\_compos\_1 X0 X1)) \wedge (v1\_finset\_1 (k11\_compos\_1 X0 X1))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k2\_tar\_ski X0 X1) \Leftrightarrow (\forall X3.(X3 \in X2) \Leftrightarrow ((X3 = X0) \vee (X3 = X1))) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 X0 (u1\_compos\_1 k1\_scmf\_sa\_2)) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0))))) \Rightarrow (\forall X1.((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmf\_sa\_2))) \Rightarrow ((r2\_scmf\_sa7b X0 X1) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 (u1\_compos\_1 k1\_scmf\_sa\_2)) \wedge ((X2 \in k10\_xtuple\_0 X0) \wedge (r1\_scmf\_sa7b X2 X1)))))) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_compos\_1 X0) \Rightarrow (k2\_compos\_1 X0 = k6\_compos\_0 (u1\_compos\_1 X0)) \quad (12)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0.(m1\_subset\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2)) \Rightarrow (\forall X1. \\ & ((v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow \\ & (\neg(\neg r1\_scmfsa7b X0 X1) \wedge (r2\_scmfsa7b (k11\_compos\_1 k1\_scmfsa\_2 \\ & X0) X1))) \end{aligned}$$