

# t9\_scmfsa\_2 (TMGFLUwrhvVm- gYPEscJ84xr7khGEB7B7DQ)

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Let  $m1\_scmfsa\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $k5\_scmfsa\_2 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_scmfsa\_1 : \iota$  be given. Let  $k1\_scmfsa\_i : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v5\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v5\_card\_3 : \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $k4\_numbers : \iota$  be given. Let  $v4\_card\_3 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\neg(X0 \neq k6\_numbers) \wedge (\forall X1.(v7\_ordinal1 X1) \Rightarrow (X0 \neq k1\_nat\_1 X1 np\_1))) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k6\_xcmplx\_0 X0 k6\_numbers = X0) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 X1) \Rightarrow ((v1\_xboole\_0 X1) \vee (X0 \in X1)) \quad (4)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k2\_xcmplx\_0 X0 \ k6\_numbers = X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 \ (k4\_xcmplx\_0 X1) = k6\_xcmplx\_0 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge (m1\_subset\_1 X1 \ (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (9)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (10)$$

Assume the following.

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

Assume the following.

$$k3\_scmfsa\_1 = k1\_scmfsa\_i \quad (12)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 \ k1\_numbers) \Rightarrow (k1\_real\_1 X0 = k4\_xcmplx\_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 \ k5\_numbers)) \Rightarrow (k1\_nat\_1 X0 X1 = k2\_xcmplx\_0 X0 X1) \quad (14)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 \ k1\_numbers) \Rightarrow (k1\_real\_1 (k1\_real\_1 X0) = X0) \quad (15)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \wedge (v1\_xreal\_0 (k4\_xcmplx\_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_finset\_1 X0) \Rightarrow (v5\_finset\_1 (k1\_zfmisc\_1 X0)) \quad (18)$$

Assume the following.

$$v5\_card\_3 k4\_ordinal1 \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Rightarrow (m1\_subset\_1 X2 X0)) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.(m1\_scmf\_sa\_2 X0) \Rightarrow (m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmf\_sa\_2)) \quad (21)$$

Assume the following.

$$m2\_subset\_1 k6\_numbers k1\_numbers k5\_numbers \quad (22)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \quad (24)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (m1\_subset\_1 (k1\_real\_1 \\ X0) k1\_numbers) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0) \wedge (m1\_subset\_1 X1 k5\_numbers)) \Rightarrow \\ (m2\_subset\_1 (k1\_nat\_1 X0 X1) k1\_numbers k5\_numbers) \quad (26)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (k5\_scmf\_sa\_2 X0 = k4\_xcmplx\_0 (k1\_nat\_1 \\ X0 np\_1)) \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \quad (28)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 (u1\_struct\_0 k1\_scmf\_sa\_2)) \Rightarrow ((m1\_scmf\_sa\_2 \\ X0) \Leftrightarrow (X0 \in k3\_scmf\_sa\_1)) \quad (29)$$

Assume the following.

$$k1\_scmfsa\_i = k6\_subset\_1 k4\_numbers k5\_numbers \quad (30)$$

Assume the following.

$$\begin{aligned} \forall X0.(X0 = k4\_numbers) \Leftrightarrow (\forall X1.(X1 \in X0) \Leftrightarrow (\neg \forall X2. \\ (m2\_subset\_1 X2 k1\_numbers k5\_numbers) \Rightarrow ((X1 \neq X2) \wedge (X1 \neq k1\_real\_1 \\ X2)))) \end{aligned} \quad (31)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Leftrightarrow (X0 \in k4\_ordinal1) \quad (32)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k2\_xcmplx\_0 X0 X1 = k2\_xcmplx\_0 X1 X0) \quad (33)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (34)$$

Assume the following.

$$\forall X0.(v5\_finset\_1 X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_finset\_1 X1)) \quad (35)$$

Assume the following.

$$\forall X0.(v5\_card\_3 X0) \Rightarrow ((\neg v1\_finset\_1 X0) \wedge (v4\_card\_3 X0)) \quad (36)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (37)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_finset\_1 X0) \quad (38)$$

**Theorem 1**

$$\forall X0.(m1\_scmfsa\_2 X0) \Rightarrow (\exists X1.(m1\_subset\_1 X1 k5\_numbers) \wedge (X0 = k5\_scmfsa\_2 X1))$$