

# t17\_scmfsa\_9 (TMaxxuogjnFKMWhMUiHtY- cjKa3cNstUDTtv)

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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  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  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  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq\_1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_6 : \iota$  be given. Let  $k2\_afinsq\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_9 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_afinsq\_1 X0)))))) \Rightarrow (\forall X1.(v7\_ordinal1 \\ X1) \Rightarrow ((X1 \in k2\_afinsq\_1 X0) \Leftrightarrow (\neg r1\_xxreal\_0 (k5\_card\_1 X0) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 \\ X0 (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_afinsq\_1 X0))))))) \Rightarrow (\forall X1.( \\ (v1\_ami\_2 X1) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 k1\_scmfsa\_2))) \Rightarrow ( \\ k5\_card\_1 (k1\_scmfsa\_9 X1 X0) = k2\_nat\_1 (k5\_card\_1 X0) np\_6)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((\neg v1\_xboole\_0 X0) \wedge ((\neg v1\_xboole\_0 X1) \wedge \\ (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))) \Rightarrow (\forall X2.(m2\_subset\_1 \\ X2 X0 X1) \Leftrightarrow (m1\_subset\_1 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (4)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (5)$$

Assume the following.

$$\neg v1\_xboole\_0 \ k1\_numbers \quad (6)$$

Assume the following.

$$m1\_subset\_1 \ k5\_numbers \ (k1\_zfmisc\_1 \ k1\_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \\ & \quad k1\_scmf\_sa\_2))) \wedge ((v1\_relat\_1 \ X1) \wedge ((v4\_relat\_1 \ X1 \ k5\_numbers) \wedge \\ & \quad ((v5\_relat\_1 \ X1 \ (u1\_compos\_1 \ k1\_scmf\_sa\_2)) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ & \quad ((v1\_funct\_1 \ X1) \wedge ((v1\_finset\_1 \ X1) \wedge (v1\_afinsq\_1 \ X1))))))) \Rightarrow \\ & \quad ((v1\_relat\_1 \ (k1\_scmf\_sa\_9 \ X0 \ X1)) \wedge ((v4\_relat\_1 \ (k1\_scmf\_sa\_9 \\ & \quad X0 \ X1) \ k5\_numbers) \wedge ((v5\_relat\_1 \ (k1\_scmf\_sa\_9 \ X0 \ X1) \ (u1\_compos\_1 \\ & \quad k1\_scmf\_sa\_2)) \wedge ((\neg v1\_xboole\_0 \ (k1\_scmf\_sa\_9 \ X0 \ X1)) \wedge ((v1\_funct\_1 \\ & \quad (k1\_scmf\_sa\_9 \ X0 \ X1)) \wedge ((v1\_finset\_1 \ (k1\_scmf\_sa\_9 \ X0 \ X1)) \wedge (v1\_afinsq\_1 \\ & \quad (k1\_scmf\_sa\_9 \ X0 \ X1)))))))))) \end{aligned} \quad (8)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0. ((v1\_ami\_2 \ X0) \wedge (m1\_subset\_1 \ X0 \ (u1\_struct\_0 \ k1\_scmf\_sa\_2))) \Rightarrow \\ & \quad (\forall X1. ((v1\_relat\_1 \ X1) \wedge ((v4\_relat\_1 \ X1 \ k5\_numbers) \wedge (( \\ & \quad v5\_relat\_1 \ X1 \ (u1\_compos\_1 \ k1\_scmf\_sa\_2)) \wedge ((\neg v1\_xboole\_0 \ X1) \wedge \\ & \quad ((v1\_funct\_1 \ X1) \wedge ((v1\_finset\_1 \ X1) \wedge (v1\_afinsq\_1 \ X1))))))) \Rightarrow \\ & \quad (\forall X2. (m2\_subset\_1 \ X2 \ k1\_numbers \ k5\_numbers) \Rightarrow ((\neg r1\_xxreal\_0 \\ & \quad (k2\_nat\_1 \ (k5\_card\_1 \ X1) \ np\_6) \ X2) \Rightarrow (X2 \in k2\_afinsq\_1 \ (k1\_scmf\_sa\_9 \\ & \quad X0 \ X1)))))) \end{aligned}$$