

t19\_scmfsa8a (TMWgLiAPXmg-  
BoWwbX7AP4esQUuMKsLXS3Gn)

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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  $k5\_numbers : \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa\_2 : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $k2\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_scmfsa\_2 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. k9\_xtuple\_0 (k6\_funct\_4 X0 X1 X2) = k9\_xtuple\_0 X0) \quad (1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (k1\_card\_1 X0 = k1\_card\_1 (k9\_xtuple\_0 X0)) \quad (2)$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\forall X0. (v1\_finset\_1 X0) \Rightarrow (k5\_card\_1 X0 = k1\_card\_1 X0) \quad (5)$$

Assume the following.

$$(\neg v1\_xboole\_0 k4\_ordinal1) \wedge (v3\_ordinal1 k4\_ordinal1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k6\_funct\_4 X0 X1 X2))\wedge(v1\_funct\_1 (k6\_funct\_4 X0 X1 X2))) \quad (7)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (8)$$

Assume the following.

$$m1\_subset\_1 k5\_numbers (k1\_zfmisc\_1 k1\_numbers) \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge \\ &((v5\_relat\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2))\wedge((v1\_funct\_1 X0)\wedge \\ &(v1\_finset\_1 X0))))))\wedge(m1\_subset\_1 X1 k5\_numbers))\Rightarrow((v1\_relat\_1 \\ &(k1\_scmfsa6a X0 X1))\wedge((v4\_relat\_1 (k1\_scmfsa6a X0 X1) k5\_numbers)\wedge \\ &((v5\_relat\_1 (k1\_scmfsa6a X0 X1) (u1\_compos\_1 k1\_scmfsa\_2))\wedge \\ &((v1\_funct\_1 (k1\_scmfsa6a X0 X1))\wedge(v1\_finset\_1 (k1\_scmfsa6a \\ &X0 X1)))))) \quad (10) \end{aligned}$$

Assume the following.

$$\begin{aligned} &\forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v5\_relat\_1 \\ &X0 (u1\_compos\_1 k1\_scmfsa\_2))\wedge((v1\_funct\_1 X0)\wedge(v1\_finset\_1 \\ &X0))))))\Rightarrow(\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers)\Rightarrow \\ &(k1\_scmfsa6a X0 X1 = k6\_funct\_4 X0 (k2\_compos\_1 k1\_scmfsa\_2) (k11\_scmfsa\_2 \\ &X1))) \quad (11) \end{aligned}$$

### Theorem 1

$$\begin{aligned} &\forall X0.((v1\_relat\_1 X0)\wedge((v4\_relat\_1 X0 k5\_numbers)\wedge((v5\_relat\_1 \\ &X0 (u1\_compos\_1 k1\_scmfsa\_2))\wedge((v1\_funct\_1 X0)\wedge(v1\_finset\_1 \\ &X0))))))\Rightarrow(\forall X1.(m2\_subset\_1 X1 k1\_numbers k5\_numbers)\Rightarrow \\ &(k5\_card\_1 (k1\_scmfsa6a X0 X1) = k5\_card\_1 X0)) \end{aligned}$$