

## t27\_scmfsa6a

(TMGwv3dGQFVppoxrAqXfCGnQyKQW2EGCStU)

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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  $v1\_relat\_1 : \iota \Rightarrow o$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k3\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_compos\_1 : \iota \Rightarrow o$  be given. Let  $k11\_compos\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_3 : \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 \\
 & X0 (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X0) \wedge ((v1\_funct\_1 \\
 & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_afinsq\_1 X0)))))) \Rightarrow (\forall X1.( \\
 & (v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 \\
 & (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((v1\_funct\_1 \\
 & X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_afinsq\_1 X1)))))) \Rightarrow (\forall X2.( \\
 & (v1\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 \\
 & (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X2) \wedge ((v1\_funct\_1 \\
 & X2) \wedge ((v1\_finset\_1 X2) \wedge (v1\_afinsq\_1 X2)))))) \Rightarrow (k3\_scmfsa6a \\
 & (k3\_scmfsa6a X0 X1) X2 = k3\_scmfsa6a X0 (k3\_scmfsa6a X1 X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((l1\_compos\_1 X0) \wedge (m1\_subset\_1 X1 (u1\_compos\_1 \\
 & X0))) \Rightarrow ((\neg v1\_xboole\_0 (k11\_compos\_1 X0 X1)) \wedge ((v1\_relat\_1 (k11\_compos\_1 \\
 & X0 X1)) \wedge ((v4\_relat\_1 (k11\_compos\_1 X0 X1) k5\_numbers) \wedge ((v5\_relat\_1 \\
 & (k11\_compos\_1 X0 X1) (u1\_compos\_1 X0)) \wedge ((v1\_funct\_1 (k11\_compos\_1 \\
 & X0 X1)) \wedge ((v1\_finset\_1 (k11\_compos\_1 X0 X1)) \wedge (v1\_afinsq\_1 (k11\_compos\_1 \\
 & X0 X1))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (l1\_extpro\_1 X1 X0) \Rightarrow ((l1\_memstr\_0 X1 X0) \wedge \\
 & (l1\_compos\_1 X1))
 \end{aligned} \tag{3}$$

Assume the following.

$$(v1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \wedge (l1\_extpro\_1\ k1\_scmfsa\_2\ np\_3) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1\ X0) \wedge ((v4\_relat\_1\ X0\ k5\_numbers) \wedge ((v5\_relat\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v1\_finset\_1\ X0) \wedge (v1\_afinsq\_1\ X0))))))) \Rightarrow (\forall X1. (m1\_subset\_1\ X1\ (u1\_compos\_1\ k1\_scmfsa\_2)) \Rightarrow (k5\_scmfsa6a\ X0\ X1 = k3\_scmfsa6a\ X0\ (k11\_compos\_1\ k1\_scmfsa\_2\ X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. (m1\_subset\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2)) \Rightarrow (\forall X1. ((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ k5\_numbers) \wedge ((v5\_relat\_1\ X1\ (u1\_compos\_1\ k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_finset\_1\ X1) \wedge (v1\_afinsq\_1\ X1))))))) \Rightarrow (k4\_scmfsa6a\ X0\ X1 = k3\_scmfsa6a\ (k11\_compos\_1\ k1\_scmfsa\_2\ X0\ X1)) \end{aligned} \quad (6)$$

**Theorem 1**

$$\begin{aligned} \forall X0. (m1\_subset\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2)) \Rightarrow (\forall X1. ((v1\_relat\_1\ X1) \wedge ((v4\_relat\_1\ X1\ k5\_numbers) \wedge ((v5\_relat\_1\ X1\ (u1\_compos\_1\ k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v1\_finset\_1\ X1) \wedge (v1\_afinsq\_1\ X1))))))) \Rightarrow (\forall X2. ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ k5\_numbers) \wedge ((v5\_relat\_1\ X2\ (u1\_compos\_1\ k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0\ X2) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_finset\_1\ X2) \wedge (v1\_afinsq\_1\ X2))))))) \Rightarrow (k3\_scmfsa6a\ (k5\_scmfsa6a\ X1\ X0)\ X2 = k3\_scmfsa6a\ X1\ (k4\_scmfsa6a\ X0\ X2))) \end{aligned}$$