

t26\_scmfsa6a (TMFoRmQZmiMXBJxqLMabzqb-  
wUtdXJ1VYsYH)

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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  $k5\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$  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.

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

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\
& ((v5\_relat\_1 X0 (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X0) \wedge \\
& ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_afinsq\_1 X0)))))) \wedge \\
& ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v5\_relat\_1 X1 \\
& (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((\neg v1\_xboole\_0 X1) \wedge ((v1\_funct\_1 \\
& X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_afinsq\_1 X1)))))) \Rightarrow ((v1\_relat\_1 \\
& (k3\_scmfsa6a X0 X1)) \wedge ((v4\_relat\_1 (k3\_scmfsa6a X0 X1) k5\_numbers) \wedge \\
& ((v5\_relat\_1 (k3\_scmfsa6a X0 X1) (u1\_compos\_1 k1\_scmfsa\_2)) \wedge \\
& ((\neg v1\_xboole\_0 (k3\_scmfsa6a X0 X1)) \wedge ((v1\_funct\_1 (k3\_scmfsa6a \\
& X0 X1)) \wedge ((v1\_finset\_1 (k3\_scmfsa6a X0 X1)) \wedge (v1\_afinsq\_1 (k3\_scmfsa6a \\
& X0 X1)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$(v1\_extpro\_1 k1\_scmfsa\_2 np\_3) \wedge (l1\_extpro\_1 k1\_scmfsa\_2 np\_3) \tag{5}$$

Assume the following.

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

**Theorem 1**

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