

t78\_scmfsa8c  
(TMVvBoBbPzp1DhKu6MPZBty4M4X8zatRm6L)

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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  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_afinsq\_1 : \iota \Rightarrow o$  be given. Let  $r5\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r6\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  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  $k8\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_scmfsa8c : \iota \Rightarrow \iota$  be given. Let  $k5\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_compos\_1 : \iota \Rightarrow \iota$  be given. Let  $k11\_scmfsa\_2 : \iota \Rightarrow \iota$  be given. Let

$k6\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 \\
& X0 (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X0) \wedge (v1\_partfun1 \\
& X0 k5\_numbers)))))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 \\
& X1 (u1\_struct\_0 k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X1) \wedge ((v5\_funct\_1 \\
& X1 (k2\_memstr\_0 np\_3 k1\_scmfsa\_2)) \wedge (v1\_partfun1 X1 (u1\_struct\_0 \\
& k1\_scmfsa\_2)))))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 \\
& X2) \wedge ((v4\_relat\_1 X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 \\
& k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_finset\_1 X2) \wedge (v1\_afinsq\_1 \\
& X2)))))) \Rightarrow (((r5\_scmfsa7b X2 X1 X0) \wedge (r6\_scmfsa7b X2 X1 X0)) \Rightarrow (( \\
& k3\_extpro\_1 np\_3 k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c X2)) \\
& (k5\_extpro\_1 np\_3 k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c X2)) \\
& (k8\_memstr\_0 np\_3 k1\_scmfsa\_2 X1) (k8\_extpro\_1 np\_3 k1\_scmfsa\_2 \\
& (k1\_funct\_4 X0 X2) (k8\_memstr\_0 np\_3 k1\_scmfsa\_2 X1))) = k11\_scmfsa\_2 \\
& k6\_numbers) \wedge (\forall X3.(m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow \\
& (\neg(r1\_xxreal\_0 X3 (k8\_extpro\_1 np\_3 k1\_scmfsa\_2 (k1\_funct\_4 \\
& X0 X2) (k8\_memstr\_0 np\_3 k1\_scmfsa\_2 X1))) \wedge (k3\_extpro\_1 np\_3 \\
& k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c X2)) (k5\_extpro\_1 np\_3 \\
& k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c X2)) (k8\_memstr\_0 np\_3 \\
& k1\_scmfsa\_2 X1) X3) = k2\_compos\_1 k1\_scmfsa\_2))))))
\end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v5\_relat\_1 \\
& X0 (u1\_compos\_1 k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X0) \wedge (v1\_partfun1 \\
& X0 k5\_numbers)))))) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 \\
& X1 (u1\_struct\_0 k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X1) \wedge ((v5\_funct\_1 \\
& X1 (k2\_memstr\_0 np\_3 k1\_scmfsa\_2)) \wedge (v1\_partfun1 X1 (u1\_struct\_0 \\
& k1\_scmfsa\_2)))))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge ((v1\_relat\_1 \\
& X2) \wedge ((v4\_relat\_1 X2 k5\_numbers) \wedge ((v5\_relat\_1 X2 (u1\_compos\_1 \\
& k1\_scmfsa\_2)) \wedge ((v1\_funct\_1 X2) \wedge ((v1\_finset\_1 X2) \wedge (v1\_afinsq\_1 \\
& X2)))))) \Rightarrow (((r5\_scmfsa7b X2 X1 X0) \wedge (r6\_scmfsa7b X2 X1 X0)) \Rightarrow (\forall X3. \\
& (m2\_subset\_1 X3 k1\_numbers k5\_numbers) \Rightarrow (\neg(r1\_xxreal\_0 X3 (k8\_extpro\_1 \\
& np\_3 k1\_scmfsa\_2 (k1\_funct\_4 X0 X2) (k8\_memstr\_0 np\_3 k1\_scmfsa\_2 \\
& X1))) \wedge (k3\_extpro\_1 np\_3 k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c \\
& X2)) (k5\_extpro\_1 np\_3 k1\_scmfsa\_2 (k1\_funct\_4 X0 (k1\_scmfsa8c \\
& X2)) (k8\_memstr\_0 np\_3 k1\_scmfsa\_2 X1) X3) = k2\_compos\_1 k1\_scmfsa\_2))))))
\end{aligned}$$