t53_scmfsa8c (TMK-FLK2mDaiJRisNNPBuLse1sS3UTZXgaaM)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ 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 $k1\_scmfsa\_2 : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v1\_afinsq\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_ami\_2 : \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $r3\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_compos\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_compos\_1 : \iota \Rightarrow o$ 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.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v5\_relat\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X0)\wedge((v1\_finset\_1\ X0)\wedge(v1\_afinsq\_1\ X0)))))))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ k5\_numbers)\wedge((v5\_relat\_1\ X1\ (u1\_compos\_1\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X1)\wedge((v1\_finset\_1\ X1)\wedge(v1\_afinsq\_1\ X1)))))))\Rightarrow(\forall X2.((v1\_ami\_2\ X2)\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ k1\_scmfsa\_2)))\Rightarrow(\neg(\neg r4\_scmfsa7b\ X0\ X2)\wedge((\neg r4\_scmfsa7b\ X1\ X2)\wedge(r4\_scmfsa7b\ (k3\_scmfsa6a\ X0\ X1)\ X2)))))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2))\Rightarrow(\forall X1.((v1\_ami\_2\ X1)\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2)))\Rightarrow(\neg(\neg r3\_scmfsa7b\ X0\ X1)\wedge(r4\_scmfsa7b\ (k11\_compos\_1\ k1\_scmfsa\_2\ X0)\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_compos\_1\ X0)\wedge(m1\_subset\_1\ X1\ (u1\_compos\_1\ X0)))\Rightarrow((\neg v1\_xboole\_0\ (k11\_compos\_1\ X0\ X1))\wedge((v1\_relat\_1\ (k11\_compos\_1\ X0\ X1))\wedge((v4\_relat\_1\ (k11\_compos\_1\ X0\ X1)\ k5\_numbers)\wedge((v5\_relat\_1\ (k11\_compos\_1\ X0\ X1)\ (u1\_compos\_1\ X0))\wedge((v1\_funct\_1\ (k11\_compos\_1\ X0\ X1))\wedge((v1\_finset\_1\ (k11\_compos\_1\ X0\ X1))\wedge(v1\_afinsq\_1\ (k11\_compos\_1\ X0\ X1)))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(l1\_extpro\_1\ X1\ X0)\Rightarrow((l1\_memstr\_0\ X1\ X0)\wedge(l1\_compos\_1\ X1)) \tag{4}$$

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.

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

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v5\_relat\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X0)\wedge((v1\_finset\_1\ X0)\wedge(v1\_afinsq\_1\ X0)))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_compos\_1\ k1\_scmfsa\_2))\Rightarrow(\forall X2.((v1\_ami\_2\ X2)\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ k1\_scmfsa\_2)))\Rightarrow(\neg(\neg r3\_scmfsa7b\ X1\ X2)\wedge((\neg r4\_scmfsa7b\ X0\ X2)\wedge(r4\_scmfsa7b\ (k4\_scmfsa6a\ X1\ X0)\ X2))))))$$