t32_scmfsa8a (TMUHapsnVdDbrDeQhhPa1WCFBFSsMeLCKx4)

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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 $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r5\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_scmfsa\_m : \iota \Rightarrow \iota$ be given. Let $r6\_scmfsa7b : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_scmfsa6a : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_compos\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_scmfsa\_2 : \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_extpro\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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.((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.((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\_partfun1\ X2\ k5\_numbers)))))\Rightarrow(((r5\_scmfsa7b\ X0\ (k1\_scmfsa\_m\ X1)\ X2)\wedge(r6\_scmfsa7b\ X0\ (k1\_scmfsa\_m\ X1)\ X2))\Rightarrow((k5\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k5\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ (k3\_scmfsa6a\ X0\ (k4\_compos\_1\ k1\_scmfsa\_2)))\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))\ (k2\_nat\_1\ (k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1))))\ np\_\_1))=k5\_card\_1\ X0)\wedge((k6\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k5\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))\ (k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))))=k6\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k5\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ (k3\_scmfsa6a\ X0\ (k4\_compos\_1\ k1\_scmfsa\_2)))\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))\ (k2\_nat\_1\ (k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1))))\ np\_\_1)))\wedge((r1\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ (k3\_scmfsa6a\ X0\ (k4\_compos\_1\ k1\_scmfsa\_2)))\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1))))\wedge(k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ (k3\_scmfsa6a\ X0\ (k4\_compos\_1\ k1\_scmfsa\_2)))\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))=k2\_nat\_1\ (k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1))))\ np\_\_1)))))))) \tag{1}$$

Theorem 1

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v1\_relat\_1\ X0)\wedge((v4\_relat\_1\ X0\ k5\_numbers)\wedge((v5\_relat\_1\ X0\ (u1\_compos\_1\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X0)\wedge((v1\_finset\_1\ X0)\wedge(v1\_afinsq\_1\ X0)))))))\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X1)\wedge((v5\_funct\_1\ X1\ (k2\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2))\wedge(v1\_partfun1\ X1\ (u1\_struct\_0\ k1\_scmfsa\_2))))))\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ k5\_numbers)\wedge((v5\_relat\_1\ X2\ (u1\_compos\_1\ k1\_scmfsa\_2))\wedge((v1\_funct\_1\ X2)\wedge(v1\_partfun1\ X2\ k5\_numbers)))))\Rightarrow(((r5\_scmfsa7b\ X0\ (k1\_scmfsa\_m\ X1)\ X2)\wedge(r6\_scmfsa7b\ X0\ (k1\_scmfsa\_m\ X1)\ X2))\Rightarrow(k5\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k5\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ (k3\_scmfsa6a\ X0\ (k4\_compos\_1\ k1\_scmfsa\_2)))\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1)))\ (k2\_nat\_1\ (k8\_extpro\_1\ np\_\_3\ k1\_scmfsa\_2\ (k1\_funct\_4\ X2\ X0)\ (k1\_funct\_4\ X1\ (k8\_memstr\_0\ np\_\_3\ k1\_scmfsa\_2\ (k16\_funcop\_1\ (k4\_scmfsa\_2\ k6\_numbers)\ np\_\_1))))\ np\_\_1))=k5\_card\_1\ X0))))$$