t13_compos_2 (TMEms2TBtbxwqvJoNL4fnZco5E5JjujzDci)

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Let $v1\_amistd\_4 : \iota \Rightarrow o$ be given. Let $l1\_compos\_1 : \iota \Rightarrow o$ be given. Let $v6\_compos\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_compos\_1 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_compos\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_compos\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_4 : \iota$ be given. Let $np\_\_3 : \iota$ be given. 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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $v1\_afinsq\_1 : \iota \Rightarrow o$ be given. Let $v3\_compos\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_compos\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Assume the following.

$$\forall X0.((v1\_amistd\_4\ X0) \wedge (l1\_compos\_1\ X0)) \Rightarrow (\forall X1.((v6\_compos\_0\ X1\ (u1\_compos\_1\ X0)) \wedge (m1\_subset\_1\ X1\ (u1\_compos\_1\ X0))) \Rightarrow (\forall X2.((v6\_compos\_0\ X2\ (u1\_compos\_1\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_compos\_1\ X0))) \Rightarrow (k5\_card\_1\ (k3\_compos\_2\ X0\ X1\ X2) = np\_\_3))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_amistd\_4\ X0) \wedge (l1\_compos\_1\ X0)) \Rightarrow (\forall X1.((v6\_compos\_0\ X1\ (u1\_compos\_1\ X0)) \wedge (m1\_subset\_1\ X1\ (u1\_compos\_1\ X0))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0\ X2) \wedge ((v1\_relat\_1\ X2) \wedge ((v4\_relat\_1\ X2\ k5\_numbers) \wedge ((v5\_relat\_1\ X2\ (u1\_compos\_1\ X0)) \wedge ((v1\_funct\_1\ X2) \wedge ((v1\_finset\_1\ X2) \wedge ((v1\_afinsq\_1\ X2) \wedge ((v3\_compos\_1\ X2\ X0) \wedge (v4\_compos\_1\ X2\ X0)))))))) \Rightarrow (k5\_card\_1\ (k2\_compos\_2\ X0\ X2\ X1) = k2\_xcmplx\_0\ (k5\_card\_1\ X2)\ np\_\_1))) \tag{2}$$

Assume the following.

$$k2\_xcmplx\_0\ np\_\_3\ np\_\_1 = np\_\_4 \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_amistd\_4\ X0)\wedge(l1\_compos\_1\ X0))\wedge(((v6\_compos\_0\ X1\ (u1\_compos\_1\ X0))\wedge(m1\_subset\_1\ X1\ (u1\_compos\_1\ X0)))\wedge((v6\_compos\_0\ X2\ (u1\_compos\_1\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_compos\_1\ X0)))))\Rightarrow((\neg v1\_xboole\_0\ (k3\_compos\_2\ X0\ X1\ X2))\wedge((v1\_relat\_1\ (k3\_compos\_2\ X0\ X1\ X2))\wedge((v4\_relat\_1\ (k3\_compos\_2\ X0\ X1\ X2)\ k5\_numbers)\wedge((v5\_relat\_1\ (k3\_compos\_2\ X0\ X1\ X2)\ (u1\_compos\_1\ X0))\wedge((v1\_funct\_1\ (k3\_compos\_2\ X0\ X1\ X2))\wedge((v1\_finset\_1\ (k3\_compos\_2\ X0\ X1\ X2))\wedge((v1\_afinsq\_1\ (k3\_compos\_2\ X0\ X1\ X2))\wedge((v3\_compos\_1\ (k3\_compos\_2\ X0\ X1\ X2)\ X0)\wedge(v4\_compos\_1\ (k3\_compos\_2\ X0\ X1\ X2)\ X0)))))))))) \tag{4}$$

Theorem 1

$$\forall X0.((v1\_amistd\_4\ X0)\wedge(l1\_compos\_1\ X0))\Rightarrow(\forall X1.((v6\_compos\_0\ X1\ (u1\_compos\_1\ X0))\wedge(m1\_subset\_1\ X1\ (u1\_compos\_1\ X0)))\Rightarrow(\forall X2.((v6\_compos\_0\ X2\ (u1\_compos\_1\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_compos\_1\ X0)))\Rightarrow(\forall X3.((v6\_compos\_0\ X3\ (u1\_compos\_1\ X0))\wedge(m1\_subset\_1\ X3\ (u1\_compos\_1\ X0)))\Rightarrow(k5\_card\_1\ (k2\_compos\_2\ X0\ (k3\_compos\_2\ X0\ X1\ X2)\ X3) = np\_\_4))))$$