t42_scmpds_7 (TM-FEo5bmZ6EJx9YBewHKNd98MH7WukiE1JC)

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Let $v1\_ami\_2 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_scmpds\_2 : \iota$ be given. Let $v1\_int\_1 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k5\_numbers : \iota$ 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 $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_compos\_1 : \iota \Rightarrow \iota$ 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 $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_card\_1 : \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k2\_afinsq\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_scmpds\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v4\_relat\_1\ X0\ k5\_numbers) \wedge ((v1\_funct\_1\ X0) \wedge ((v1\_finset\_1\ X0) \wedge (v1\_afinsq\_1\ X0))))) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow ((X1 \in k2\_afinsq\_1\ X0) \Leftrightarrow (\neg r1\_xxreal\_0\ (k5\_card\_1\ X0)\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_ami\_2\ X0) \wedge (m1\_subset\_1\ X0\ (u1\_struct\_0\ k1\_scmpds\_2))) \Rightarrow (\forall X1.(v1\_int\_1\ X1) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X3.((\neg v1\_xboole\_0\ X3) \wedge ((v1\_relat\_1\ X3) \wedge ((v4\_relat\_1\ X3\ k5\_numbers) \wedge ((v5\_relat\_1\ X3\ (u1\_compos\_1\ k1\_scmpds\_2)) \wedge ((v1\_funct\_1\ X3) \wedge ((v1\_finset\_1\ X3) \wedge (v1\_afinsq\_1\ X3)))))))) \Rightarrow (k5\_card\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3) = k2\_nat\_1\ (k5\_card\_1\ X3)\ np\_\_3))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{3}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{4}$$

Assume the following.

$$\neg v1\_xboole\_0\ k1\_numbers \tag{5}$$

Assume the following.

$$m1\_subset\_1\ k5\_numbers\ (k1\_zfmisc\_1\ k1\_numbers) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_ami\_2\ X0)\wedge (m1\_subset\_1\ X0\ (u1\_struct\_0\ k1\_scmpds\_2)))\wedge((v1\_int\_1\ X1)\wedge ((m1\_subset\_1\ X2\ k5\_numbers)\wedge((\neg v1\_xboole\_0\ X3)\wedge((v1\_relat\_1\ X3)\wedge((v4\_relat\_1\ X3\ k5\_numbers)\wedge((v5\_relat\_1\ X3\ (u1\_compos\_1\ k1\_scmpds\_2))\wedge((v1\_funct\_1\ X3)\wedge((v1\_finset\_1\ X3)\wedge(v1\_afinsq\_1\ X3)))))))))\Rightarrow((\neg v1\_xboole\_0\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3))\wedge((v1\_relat\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3))\wedge((v4\_relat\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3)\ k5\_numbers)\wedge((v5\_relat\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3)\ (u1\_compos\_1\ k1\_scmpds\_2))\wedge((v1\_funct\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3))\wedge((v1\_finset\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3))\wedge(v1\_afinsq\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X3)))))))) \tag{7}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow((v1\_xboole\_0\ X1)\wedge((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0)))) \tag{9}$$

Theorem 1

$$\forall X0.((v1\_ami\_2\ X0)\wedge(m1\_subset\_1\ X0\ (u1\_struct\_0\ k1\_scmpds\_2)))\Rightarrow(\forall X1.(v1\_int\_1\ X1)\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X3.(m2\_subset\_1\ X3\ k1\_numbers\ k5\_numbers)\Rightarrow(\forall X4.((\neg v1\_xboole\_0\ X4)\wedge((v1\_relat\_1\ X4)\wedge((v4\_relat\_1\ X4\ k5\_numbers)\wedge((v5\_relat\_1\ X4\ (u1\_compos\_1\ k1\_scmpds\_2))\wedge((v1\_funct\_1\ X4)\wedge((v1\_finset\_1\ X4)\wedge(v1\_afinsq\_1\ X4)))))))\Rightarrow((\neg r1\_xxreal\_0\ (k2\_nat\_1\ (k5\_card\_1\ X4)\ np\_\_3)\ X3)\Leftrightarrow(X3\in k2\_afinsq\_1\ (k2\_scmpds\_7\ X0\ X1\ X2\ X4)))))))$$