t67_filter_0 (TMTgusgpQnbheAE74U9EESdnJdUVFrrffqu)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v19\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v3\_filter\_0 : \iota \Rightarrow o$ be given. Let $v3\_relat\_2 : \iota \Rightarrow o$ be given. Let $k8\_filter\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v8\_relat\_2 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r8\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_relat\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_relat\_1 : \iota \Rightarrow \iota$ 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. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v19\_lattices\ X1\ X0) \wedge ((v20\_lattices\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge ((v3\_filter\_0\ X0) \wedge (l3\_lattices\ X0)))) \Rightarrow (r8\_relat\_2\ (k8\_filter\_0\ X0\ X1)\ (u1\_struct\_0\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v19\_lattices\ X1\ X0) \wedge ((v20\_lattices\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (r3\_relat\_2\ (k8\_filter\_0\ X0\ X1)\ (u1\_struct\_0\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge ((v19\_lattices\ X1\ X0) \wedge ((v20\_lattices\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))) \Rightarrow (((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge ((v3\_filter\_0\ X0) \wedge (l3\_lattices\ X0)))) \Rightarrow (r1\_relat\_2\ (k8\_filter\_0\ X0\ X1)\ (u1\_struct\_0\ X0)))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v19\_lattices\ X1\ X0)\wedge((v20\_lattices\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(m1\_subset\_1\ (k8\_filter\_0\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)))\Rightarrow((r1\_relat\_2\ X1\ X0)\Rightarrow((k1\_relset\_1\ X0\ X1 = X0)\wedge(k1\_relat\_1\ X1 = X0))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\wedge((\neg v1\_xboole\_0\ X1)\wedge((v19\_lattices\ X1\ X0)\wedge((v20\_lattices\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))))\Rightarrow(v1\_relat\_1\ (k8\_filter\_0\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow((v1\_partfun1\ X1\ X0)\Leftrightarrow(k1\_relset\_1\ X0\ X1 = X0)) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v8\_relat\_2\ X0)\Leftrightarrow(r8\_relat\_2\ X0\ (k1\_relat\_1\ X0))) \tag{8}$$

Assume the following.

$$\forall X0.(v1\_relat\_1\ X0)\Rightarrow((v3\_relat\_2\ X0)\Leftrightarrow(r3\_relat\_2\ X0\ (k1\_relat\_1\ X0))) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{10}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v19\_lattices\ X1\ X0)\wedge((v20\_lattices\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))))\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge((v3\_filter\_0\ X0)\wedge(l3\_lattices\ X0))))\Rightarrow((v3\_relat\_2\ (k8\_filter\_0\ X0\ X1))\wedge((v8\_relat\_2\ (k8\_filter\_0\ X0\ X1))\wedge((v1\_partfun1\ (k8\_filter\_0\ X0\ X1)\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (k8\_filter\_0\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))))))))$$