t20_filter_2 (TMGhLnvUgoh9N8fciaUq3QTkGqNhQd9Vi6J)

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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 $v18\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v21\_lattices : \iota \Rightarrow \iota \Rightarrow o$ 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 $v19\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_lattice2 : \iota \Rightarrow \iota$ be given. Let $v20\_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_lattices : \iota \Rightarrow \iota$ be given. Let $u1\_lattices : \iota \Rightarrow \iota$ be given. Let $k4\_filter\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_filter\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l3\_lattices\ X0)) \Rightarrow ((u1\_struct\_0\ X0 = u1\_struct\_0\ (k1\_lattice2\ X0)) \wedge ((r1\_funct\_2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_struct\_0\ (k1\_lattice2\ X0)))\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u2\_lattices\ X0)\ (u1\_lattices\ (k1\_lattice2\ X0))) \wedge (r1\_funct\_2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_struct\_0\ (k1\_lattice2\ X0)))\ (u1\_struct\_0\ (k1\_lattice2\ X0))\ (u1\_lattices\ X0)\ (u2\_lattices\ (k1\_lattice2\ X0))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \wedge ((v19\_lattices\ X1\ (k1\_lattice2\ X0)) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0)))))) \Rightarrow (v18\_lattices\ (k4\_filter\_2\ X0\ X1)\ X0) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \wedge ((v18\_lattices\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (v19\_lattices\ (k3\_filter\_2\ X0\ X1)\ (k1\_lattice2\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge (l3\_lattices\ X0)))\wedge((v20\_lattices\ X1\ (k1\_lattice2\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))))))\Rightarrow(v21\_lattices\ (k4\_filter\_2\ X0\ X1)\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge (l3\_lattices\ X0)))\wedge((v21\_lattices\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(v20\_lattices\ (k3\_filter\_2\ X0\ X1)\ (k1\_lattice2\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))))\Rightarrow(k4\_filter\_2\ X0\ X1 = X1)) \tag{6}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(k3\_filter\_2\ X0\ X1 = X1)) \tag{7}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v18\_lattices\ X1\ X0)\wedge((v21\_lattices\ X1\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))))\Leftrightarrow((\neg v1\_xboole\_0\ X1)\wedge((v19\_lattices\ X1\ (k1\_lattice2\ X0))\wedge((v20\_lattices\ X1\ (k1\_lattice2\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k1\_lattice2\ X0))))))))$$