

## t17\_filter\_0

(TMWvg6pE16jsZGtG7FzrLg5f4hXVxiCfBip)

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  $v13\_lattices : \iota \Rightarrow o$  be given. Let  $k1\_filter\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_filter\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_lattices : \iota \Rightarrow \iota$  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  $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_lattices : \iota \Rightarrow o$  be given. Let  $l2\_lattices : \iota \Rightarrow o$  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. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow ((\forall X2. \\ (m1\_subset\_1 X2 X0) \Rightarrow (X2 \in X1)) \Rightarrow (X0 = X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge (l3\_lattices \\ X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k2\_filter\_0 X0 X1) \wedge (( \\ k3\_lattices X0 X1 X2 \in k2\_filter\_0 X0 X1) \wedge (k3\_lattices X0 X2 X1 \in k2\_filter\_0 \\ X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v10\_lattices X0) \wedge ((v13\_lattices \\ X0) \wedge (l3\_lattices X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (k3\_lattices X0 (k5\_lattices X0) X1 = X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. (l3\_lattices X0) \Rightarrow ((l1\_lattices X0) \wedge (l2\_lattices X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_lattices X0)) \Rightarrow (m1\_subset\_1 \\ (k5\_lattices X0) (u1\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge \\ (l3\_lattices X0)))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow((\neg v1\_xboole\_0 \\ (k2\_filter\_0 X0 X1))\wedge((v19\_lattices (k2\_filter\_0 X0 X1) X0)\wedge \\ (v20\_lattices (k2\_filter\_0 X0 X1) X0)\wedge(m1\_subset\_1 (k2\_filter\_0 \\ X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge(l3\_lattices X0)))\Rightarrow(k1\_filter\_0 X0 = u1\_struct\_0 X0) \quad (7)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge(l3\_lattices \\ X0)))\Rightarrow(((\neg v2\_struct\_0 X0)\wedge((v10\_lattices X0)\wedge((v13\_lattices \\ X0)\wedge(l3\_lattices X0))))\Rightarrow(k1\_filter\_0 X0 = k2\_filter\_0 X0 (k5\_lattices \\ X0))) \end{aligned}$$