

t50_filter_2

(TMV6V9pnPfnysULp2pUvn1aTuxyhgo9wGD)

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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 $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattice2 : \iota \Rightarrow \iota$ be given. Let $k5_filter_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v19_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (u1_struct_0 X0)))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge (m1_subset_1 \\
 & X2 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (\forall X3.((\neg v1_xboole_0 \\
 & X3) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 (k1_lattice2 X0)))))) \Rightarrow \\
 & (\forall X4.((\neg v1_xboole_0 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 \\
 & (u1_struct_0 (k1_lattice2 X0)))))) \Rightarrow ((k8_filter_2 X0 X1 X2 = k5_filter_0 \\
 & (k1_lattice2 X0) (k3_filter_2 X0 X1) (k3_filter_2 X0 X2)) \wedge ((k8_filter_2 \\
 & (k1_lattice2 X0) (k3_filter_2 X0 X1) (k3_filter_2 X0 X2) = k5_filter_0 \\
 & X0 X1 X2) \wedge ((k8_filter_2 (k1_lattice2 X0) X3 X4 = k5_filter_0 X0 (\\
 & k4_filter_2 X0 X3) (k4_filter_2 X0 X4)) \wedge (k8_filter_2 X0 (k4_filter_2 \\
 & X0 X3) (k4_filter_2 X0 X4) = k5_filter_0 (k1_lattice2 X0) X3 X4))))))))) \\
 & \tag{1}
 \end{aligned}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v19_lattices X1 X0) \wedge \\
 & ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
 & X0)))))) \Rightarrow (\forall X2.((\neg v1_xboole_0 X2) \wedge ((v19_lattices X2 X0) \wedge \\
 & ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\
 & X0)))))) \Rightarrow ((r1_tarski X1 (k5_filter_0 X0 X1 X2)) \wedge (r1_tarski X2 \\
 & (k5_filter_0 X0 X1 X2)))))) \\
 & \tag{2}
 \end{aligned}$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v3_lattices (k1_lattice2 X0)) \wedge (v10_lattices (k1_lattice2 X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v18_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v19_lattices (k3_filter_2 X0 X1) (k1_lattice2 X0)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v21_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v20_lattices (k3_filter_2 X0 X1) (k1_lattice2 X0)) \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((\neg v2_struct_0 (k1_lattice2 X0)) \wedge (v3_lattices (k1_lattice2 X0))) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k3_filter_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 (k1_lattice2 X0)))) \quad (7)$$

Assume the following.

$$\forall X0. (l3_lattices X0) \Rightarrow ((v3_lattices (k1_lattice2 X0)) \wedge (l3_lattices (k1_lattice2 X0))) \quad (8)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (k3_filter_2 X0 X1 = X1)) \quad (9)$$

Theorem 1

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v18_lattices X1 X0) \wedge ((v21_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v18_lattices X2 X0) \wedge ((v21_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((r1_tarski X1 (k8_filter_2 X0 X1 X2)) \wedge (r1_tarski X2 (k8_filter_2 X0 X1 X2))))))$$