

t38_filter_0

(TMRWab1hazyqrt1FJbtrv9UYUP2j3oiAZEe)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v3_filter_0 : \iota \Rightarrow o$ 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 $k3_filter_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_filter_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & \quad X0))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v19_lattices X1 X0) \wedge \\
 & ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
 & \quad X0)))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v19_lattices X2 X0) \wedge \\
 & ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\
 & \quad X0)))))) \Rightarrow (k3_filter_0 X0 (k4_subset_1 (u1_struct_0 X0) X1 X2) = \\
 & \quad k3_filter_0 X0 (k5_filter_0 X0 X1 X2)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & \quad X0))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v19_lattices X1 X0) \wedge \\
 & ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
 & \quad X0)))))) \Rightarrow (k3_filter_0 X0 X1 = X1))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\
 & \quad X0) \wedge ((v11_lattices X0) \wedge (l3_lattices X0)))) \wedge ((\neg v1_xboole_0 \\
 & X1) \wedge ((v19_lattices X1 X0) \wedge ((v20_lattices X1 X0) \wedge (m1_subset_1 \\
 & \quad X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \wedge ((\neg v1_xboole_0 X2) \wedge ((\\
 & v19_lattices X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\
 & \quad (u1_struct_0 X0))))))))) \Rightarrow ((v19_lattices (k5_filter_0 X0 X1 X2) \\
 & \quad X0) \wedge (v20_lattices (k5_filter_0 X0 X1 X2) X0))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (l3_lattices X0))) \wedge (((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))))) \Rightarrow (\neg v1_xboole_0 (k5_filter_0 \\ & X0 X1 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (l3_lattices X0))) \wedge (((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 \\ & (k1_zfmisc_1 (u1_struct_0 X0)))) \wedge ((\neg v1_xboole_0 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))))) \Rightarrow (m1_subset_1 (k5_filter_0 \\ & X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (v3_filter_0 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge \\ & ((v11_lattices X0) \wedge (v3_filter_0 X0)))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v3_filter_0 \\ & X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v19_lattices \\ & X1 X0) \wedge ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v19_lattices X2 X0) \wedge \\ & ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\ & X0))))) \Rightarrow (k3_filter_0 X0 (k4_subset_1 (u1_struct_0 X0) X1 X2) = \\ & k5_filter_0 X0 X1 X2))) \end{aligned}$$