

t21_filter_0

(TMJoD9MNjsgCFHZUtrgnaw6wYbEVdvnfkda)

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 $k3_filter_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & X0))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
 & (u1_struct_0 X0)))) \Rightarrow (\forall X2. ((\neg v1_xboole_0 X2) \wedge ((v19_lattices \\
 & X2 X0) \wedge ((v20_lattices X2 X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 \\
 & X0)))))) \Rightarrow ((X2 = k3_filter_0 X0 X1) \Leftrightarrow ((r1_tarski X1 X2) \wedge (\forall X3. \\
 & ((\neg v1_xboole_0 X3) \wedge ((v19_lattices X3 X0) \wedge ((v20_lattices X3 X0) \wedge \\
 & (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((r1_tarski \\
 & X1 X3) \Rightarrow (r1_tarski X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \tag{2}$$

Theorem 1

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