

t19_lopclset
(TMVRh4mzBjD64L4kAqoB52fydtU5H9zinzy)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v17_lattices : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_filter_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_filter_0 : \iota \Rightarrow \iota$ be given. Let $v2_filter_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge ((v17_lattices \\ & X0) \wedge (l3_lattices X0)))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v19_lattices \\ & X1 X0) \wedge ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow (((X1 \neq k1_filter_0 X0) \wedge (v2_filter_0 X1 X0)) \Leftrightarrow (v1_filter_0 \\ & X1 X0))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\ & X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v19_lattices X1 X0) \wedge \\ & ((v20_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow ((v2_filter_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((k3_lattices \\ & X0 X2 X3 \in X1) \Leftrightarrow ((X2 \in X1) \vee (X3 \in X1))))))) \end{aligned} \tag{2}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X3.((\neg v1_xboole_0 X3) \wedge ((v19_lattices X3 X0) \wedge \\ & (v20_lattices X3 X0) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 \\ & X0)))))) \Rightarrow ((v1_filter_0 X3 X0) \Rightarrow ((k3_lattices X0 X1 X2 \in X3) \Leftrightarrow ((X1 \in \\ & X3) \vee (X2 \in X3)))))) \end{aligned}$$