

t85_filter_2

(TMZ7siB3cDt8ZtJLUJqpLVGwyrp281f9bn5)

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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v17_lattices : \iota \Rightarrow o$ be given. Let $r3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v15_lattices : \iota \Rightarrow o$ be given. Let $v16_lattices : \iota \Rightarrow o$ be given. Let $v12_lattices : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v20_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v21_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v11_lattices : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & \quad X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\
 & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\
 & \quad X0) \wedge ((v15_lattices X0) \wedge ((v16_lattices X0) \wedge (l3_lattices X0)))))) \wedge \\
 & \quad ((v12_lattices X0) \wedge (r3_lattices X0 X1 X2))) \Rightarrow ((\neg v2_struct_0 (\\
 & \quad k10_filter_2 X0 (k9_filter_2 X0 X1 X2))) \wedge ((v10_lattices (k10_filter_2 \\
 & \quad X0 (k9_filter_2 X0 X1 X2))) \wedge ((v15_lattices (k10_filter_2 X0 (k9_filter_2 \\
 & \quad X0 X1 X2))) \wedge ((v16_lattices (k10_filter_2 X0 (k9_filter_2 X0 X1 \\
 & \quad X2))) \wedge (l3_lattices (k10_filter_2 X0 (k9_filter_2 X0 X1 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\
 & \quad X0))) \Rightarrow (\forall X1. ((\neg v1_xboole_0 X1) \wedge ((v20_lattices X1 X0) \wedge \\
 & ((v21_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
 & \quad X0)))))) \Rightarrow ((v11_lattices X0) \Rightarrow (v11_lattices (k10_filter_2 X0 \\
 & \quad X1))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (l3_lattices X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((\neg v1_xboole_0 (k9_filter_2 \\ & X0 X1 X2)) \wedge ((v20_lattices (k9_filter_2 X0 X1 X2) X0) \wedge ((v21_lattices \\ & (k9_filter_2 X0 X1 X2) X0) \wedge (m1_subset_1 (k9_filter_2 X0 X1 X2) (\\ & k1_zfmisc_1 (u1_struct_0 X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (v11_lattices X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge (v12_lattices X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v11_lattices \\ & X0) \wedge ((v15_lattices X0) \wedge (v16_lattices X0)))) \Rightarrow ((\neg v2_struct_0 \\ & X0) \wedge (v17_lattices X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3_lattices X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v17_lattices \\ & X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v11_lattices X0) \wedge ((v15_lattices \\ & X0) \wedge (v16_lattices X0)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\ & X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v17_lattices X0) \wedge (l3_lattices X0)))) \wedge (r3_lattices X0 \\ & X1 X2)) \Rightarrow ((\neg v2_struct_0 (k10_filter_2 X0 (k9_filter_2 X0 X1 X2))) \wedge \\ & ((v10_lattices (k10_filter_2 X0 (k9_filter_2 X0 X1 X2))) \wedge (v17_lattices \\ & (k10_filter_2 X0 (k9_filter_2 X0 X1 X2)))) \wedge (l3_lattices (k10_filter_2 \\ & X0 (k9_filter_2 X0 X1 X2))))))))) \end{aligned}$$