

t32_filter_2

(TMKdp8fDw5Eu3SN5GxzCKx6mTdgsyrkB6mj)

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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 $r2_filter_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_filter_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_lattice2 : \iota \Rightarrow \iota$ be given. Let $r1_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v19_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_filter_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_lattices : \iota \Rightarrow o$ be given. Let $v20_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((\neg v1_xboole_0 X0) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0)))) \Rightarrow ((r1_filter_2 X0 X1 X2) \Leftrightarrow (X1 = X2)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 X0 X0) X0) X0)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v19_lattices X1 (k1_lattice2 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k1_lattice2 X0)))))) \Rightarrow (v18_lattices (k4_filter_2 X0 X1) X0) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((v3_lattices (k1_lattice2 X0)) \wedge (v10_lattices (k1_lattice2 X0))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v18_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v19_lattices (k3_filter_2 X0 X1) (k1_lattice2 X0)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v20_lattices X1 (k1_lattice2 X0)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k1_lattice2 X0)))))) \Rightarrow (v21_lattices (k4_filter_2 X0 X1) X0) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \wedge ((v21_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (v20_lattices (k3_filter_2 X0 X1) (k1_lattice2 X0)) \quad (7)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow ((\neg v2_struct_0 (k1_lattice2 X0)) \wedge (v3_lattices (k1_lattice2 X0))) \quad (8)$$

Assume the following.

$$\forall X0. (l2_lattices X0) \Rightarrow ((v1_funct_1 (u2_lattices X0)) \wedge ((v1_funct_2 (u2_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_lattices X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0. (l1_lattices X0) \Rightarrow ((v1_funct_1 (u1_lattices X0)) \wedge ((v1_funct_2 (u1_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_lattices X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X0)) (u1_struct_0 X0)))))) \quad (10)$$

Assume the following.

$$\forall X0. (l3_lattices X0) \Rightarrow ((l1_lattices X0) \wedge (l2_lattices X0)) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge \\ (l3_lattices X0)))\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))\Rightarrow(m1_subset_1 (k3_filter_2 X0 X1) (k1_zfmisc_1 (u1_struct_0 \\ (k1_lattice2 X0)))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l3_lattices X0)\Rightarrow((v3_lattices (k1_lattice2 X0))\wedge \\ (l3_lattices (k1_lattice2 X0))) \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices \\ X0)))\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge((v18_lattices X1 X0)\wedge \\ ((v21_lattices X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))))))\Rightarrow((r2_filter_2 X0 X1)\Leftrightarrow((X1\neq u1_struct_0 X0)\wedge(\forall X2. \\ ((\neg v1_xboole_0 X2)\wedge((v18_lattices X2 X0)\wedge((v21_lattices X2 X0)\wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow((r1_tarski \\ X1 X2)\Rightarrow((X2 = u1_struct_0 X0)\vee(r1_filter_2 (u1_struct_0 X0) X1 \\ X2))))))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices \\ X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ (k1_lattice2 X0))))\Rightarrow(k4_filter_2 X0 X1 = X1)) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices \\ X0)))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))\Rightarrow(k3_filter_2 X0 X1 = X1)) \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0)\wedge((v10_lattices X0)\wedge(l3_lattices \\ X0)))\Rightarrow(\forall X1.((\neg v1_xboole_0 X1)\wedge((v19_lattices X1 X0)\wedge \\ ((v20_lattices X1 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0))))))\Rightarrow((v1_filter_0 X1 X0)\Leftrightarrow((X1\neq u1_struct_0 X0)\wedge(\forall X2. \\ ((\neg v1_xboole_0 X2)\wedge((v19_lattices X2 X0)\wedge((v20_lattices X2 X0)\wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))))))\Rightarrow((r1_tarski \\ X1 X2)\Rightarrow((X2 = u1_struct_0 X0)\vee(X1 = X2))))))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(l3_lattices X0)\Rightarrow(k1_lattice2 X0 = g3_lattices (u1_struct_0 \\ X0) (u1_lattices X0) (u2_lattices X0)) \quad (18)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0)) \Rightarrow (v1_xboole_0 X1)) \quad (19)$$

Assume the following.

$$\forall X0.(l3_lattices X0) \Rightarrow ((v3_lattices X0) \Rightarrow (X0 = g3_lattices (u1_struct_0 X0) (u2_lattices X0) (u1_lattices X0))) \quad (20)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v18_lattices X1 X0) \wedge \\ & ((v21_lattices X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow ((r2_filter_2 X0 X1) \Leftrightarrow (v1_filter_0 (k3_filter_2 X0 X1) \\ & (k1_lattice2 X0)))) \end{aligned}$$