

t68_filter_2 (TMU_{sr}KYwZDsRT- fW_xeuScUF68w4N28ZPj8u1)

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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 $m2_nat_lat : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k1_filter_0 : \iota \Rightarrow \iota$ be given. Let $v19_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v20_lattices : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $k1_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (\forall X1. (m2_nat_lat X1 X0) \Rightarrow ((\neg v2_struct_0 X1) \wedge ((v10_lattices X1) \wedge (l3_lattices X1)))) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow ((\neg v1_xboole_0 (k1_filter_0 X0)) \wedge ((v19_lattices (k1_filter_0 X0) X0) \wedge ((v20_lattices (k1_filter_0 X0) X0) \wedge (m1_subset_1 (k1_filter_0 X0) (k1_zfmisc_1 (u1_struct_0 X0)))))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices X0))) \Rightarrow (k1_filter_0 X0 = u1_struct_0 X0) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\ & X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v10_lattices X1) \wedge (l3_lattices \\ & X1))) \Rightarrow ((m2_nat_lat X1 X0) \Leftrightarrow ((r1_tarski (u1_struct_0 X1) (u1_struct_0 \\ & X0)) \wedge ((u2_lattices X1 = k1_realset1 (u2_lattices X0) (u1_struct_0 \\ & X1)) \wedge (u1_lattices X1 = k1_realset1 (u1_lattices X0) (u1_struct_0 \\ & X1)))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v10_lattices X0) \wedge (l3_lattices \\ & X0))) \Rightarrow (\forall X1.(m2_nat_lat X1 X0) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (u1_struct_0 X1) \Rightarrow (m1_subset_1 X2 (u1_struct_0 X0)))) \end{aligned}$$