

t1_quantal1

(TMTnM99srYvsi1vxKpjqYCuu7tcuPVQW8yK)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $g3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $u2_lattices : \iota \Rightarrow \iota$ be given. Let $u1_lattices : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $l2_lattices : \iota \Rightarrow o$ be given. Let $l1_lattices : \iota \Rightarrow o$ be given. Let $k5_binop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\ & X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0)))))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\ & (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. \\ & (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge \\ & (X2 = X5)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l2_lattices X0) \Rightarrow ((v1_funct_1 (u2_lattices X0)) \wedge \\ & ((v1_funct_2 (u2_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u2_lattices \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_lattices X0) \Rightarrow ((v1_funct_1 (u1_lattices X0)) \wedge \\ & ((v1_funct_2 (u1_lattices X0) (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_lattices \\ & X0) (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (\\ & u1_struct_0 X0)) (u1_struct_0 X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l3_lattices\ X0)\Rightarrow((l1_lattices\ X0)\wedge(l2_lattices\ X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l2_lattices\ X0))\Rightarrow(\forall X1. \\ &(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2 \\ &(u1_struct_0\ X0))\Rightarrow((r1_lattices\ X0\ X1\ X2)\Leftrightarrow(k1_lattices\ X0\ X1\ X2 = \\ &\quad X2)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l1_lattices\ X0))\Rightarrow(\forall X1. \\ &(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2 \\ &(u1_struct_0\ X0))\Rightarrow(k2_lattices\ X0\ X1\ X2 = k5_binop_1\ (u1_struct_0 \\ &\quad X0)\ (u1_lattices\ X0)\ X1\ X2))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l2_lattices\ X0))\Rightarrow(\forall X1. \\ &(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(\forall X2.(m1_subset_1\ X2 \\ &(u1_struct_0\ X0))\Rightarrow(k1_lattices\ X0\ X1\ X2 = k5_binop_1\ (u1_struct_0 \\ &\quad X0)\ (u2_lattices\ X0)\ X1\ X2))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} &\forall X0.((\neg v2_struct_0\ X0)\wedge(l3_lattices\ X0))\Rightarrow(\forall X1. \\ &((\neg v2_struct_0\ X1)\wedge(l3_lattices\ X1))\Rightarrow((g3_lattices\ (u1_struct_0 \\ &\ X0)\ (u2_lattices\ X0)\ (u1_lattices\ X0) = g3_lattices\ (u1_struct_0 \\ &\ X1)\ (u2_lattices\ X1)\ (u1_lattices\ X1))\Rightarrow(\forall X2.(m1_subset_1 \\ &\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ &\ X0))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0\ X1))\Rightarrow(\forall X5. \\ &\ (m1_subset_1\ X5\ (u1_struct_0\ X1))\Rightarrow(((X2 = X4)\wedge(X3 = X5))\Rightarrow((k1_lattices \\ &\ X0\ X2\ X3 = k1_lattices\ X1\ X4\ X5)\wedge((k2_lattices\ X0\ X2\ X3 = k2_lattices \\ &\ X1\ X4\ X5)\wedge(((r1_lattices\ X0\ X2\ X3)\Rightarrow(r1_lattices\ X1\ X4\ X5))\wedge((r1_lattices \\ &\ X1\ X4\ X5)\Rightarrow(r1_lattices\ X0\ X2\ X3)))))))))) \end{aligned}$$