

t2_quantal1

(TMaSyJv4WUfwfTvoJtZHvWV19UNmBrLmzXB)

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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 $r3_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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. Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_lattices X0)) \Rightarrow (\forall X1. \\
 & ((\neg v2_struct_0 X1) \wedge (l3_lattices X1)) \Rightarrow ((g3_lattices (u1_struct_0 \\
 & X0) (u2_lattices X0) (u1_lattices X0) = g3_lattices (u1_struct_0 \\
 & X1) (u2_lattices X1) (u1_lattices X1)) \Rightarrow (\forall X2.(m1_subset_1 \\
 & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\
 & X0)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow (\forall X5. \\
 & (m1_subset_1 X5 (u1_struct_0 X1)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow ((k1_lattices \\
 & X0 X2 X3 = k1_lattices X1 X4 X5) \wedge ((k2_lattices X0 X2 X3 = k2_lattices \\
 & X1 X4 X5) \wedge ((r1_lattices X0 X2 X3) \Rightarrow (r1_lattices X1 X4 X5)) \wedge ((r1_lattices \\
 & X1 X4 X5) \Rightarrow (r1_lattices X0 X2 X3))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (((v1_funct_1 X1) \wedge ((v1_funct_2 \\
 & X1 (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k2_zfmisc_1 X0 X0) X0)))) \wedge ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 \\
 & (k2_zfmisc_1 X0 X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (k2_zfmisc_1 X0 X0) X0)))))) \Rightarrow (\forall X3. \forall X4. \forall X5. \\
 & (g3_lattices X0 X1 X2 = g3_lattices X3 X4 X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge \\
 & (X2 = X5))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.(l2_lattices\ X0) \Rightarrow & ((v1_funct_1\ (u2_lattices\ X0)) \wedge \\ & ((v1_funct_2\ (u2_lattices\ X0)\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ & u1_struct_0\ X0))\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ (u2_lattices \\ & X0)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ & u1_struct_0\ X0))\ (u1_struct_0\ X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_lattices\ X0) \Rightarrow & ((v1_funct_1\ (u1_lattices\ X0)) \wedge \\ & ((v1_funct_2\ (u1_lattices\ X0)\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ & u1_struct_0\ X0))\ (u1_struct_0\ X0)) \wedge (m1_subset_1\ (u1_lattices \\ & X0)\ (k1_zfmisc_1\ (k2_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0)\ (\\ & u1_struct_0\ X0))\ (u1_struct_0\ X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l3_lattices\ X0) \Rightarrow ((l1_lattices\ X0) \wedge (l2_lattices\ X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge (l2_lattices\ X0)) \Rightarrow & (\forall X1. \\ & (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(m1_subset_1\ X2 \\ & (u1_struct_0\ X0)) \Rightarrow ((r1_lattices\ X0\ X1\ X2) \Leftrightarrow (k1_lattices\ X0\ X1\ X2 = \\ & X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge (l3_lattices\ X0)) \Rightarrow & (\forall X1. \\ & (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(r4_lattice3\ X0 \\ & X1\ X2) \Leftrightarrow (\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0)) \Rightarrow ((X3 \in X2) \Rightarrow \\ & (r1_lattices\ X0\ X3\ X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge (l3_lattices\ X0)) \Rightarrow & (\forall X1. \\ & (m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.(r3_lattice3\ X0 \\ & X1\ X2) \Leftrightarrow (\forall X3.(m1_subset_1\ X3\ (u1_struct_0\ X0)) \Rightarrow ((X3 \in X2) \Rightarrow \\ & (r1_lattices\ X0\ X1\ X3)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0\ X0) \wedge (l3_lattices\ X0)) \Rightarrow & (\forall X1. \\ & ((\neg v2_struct_0\ X1) \wedge (l3_lattices\ X1)) \Rightarrow ((g3_lattices\ (u1_struct_0 \\ & X0)\ (u2_lattices\ X0)\ (u1_lattices\ X0) = g3_lattices\ (u1_struct_0 \\ & X1)\ (u2_lattices\ X1)\ (u1_lattices\ X1)) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2\ (u1_struct_0\ X0)) \Rightarrow (\forall X3.(m1_subset_1\ X3\ (u1_struct_0 \\ & X1)) \Rightarrow (\forall X4.(X2 = X3) \Rightarrow (((r3_lattice3\ X0\ X2\ X4) \Rightarrow (r3_lattice3 \\ & X1\ X3\ X4)) \wedge (((r3_lattice3\ X1\ X3\ X4) \Rightarrow (r3_lattice3\ X0\ X2\ X4)) \wedge (((\\ & r4_lattice3\ X0\ X2\ X4) \Rightarrow (r4_lattice3\ X1\ X3\ X4)) \wedge ((r4_lattice3\ X1 \\ & X3\ X4) \Rightarrow (r4_lattice3\ X0\ X2\ X4)))))))))) \end{aligned}$$