

t30_quantal1

(TMb3uzeRYMZesVw4yxyaEVVRCrsh8WdEQy8)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_group_1 : \iota \Rightarrow o$ be given. Let $v3_group_1 : \iota \Rightarrow o$ be given. Let $v10_lattices : \iota \Rightarrow o$ be given. Let $v4_lattice3 : \iota \Rightarrow o$ be given. Let $v7_quantal1 : \iota \Rightarrow o$ be given. Let $v8_quantal1 : \iota \Rightarrow o$ be given. Let $v20_quantal1 : \iota \Rightarrow o$ be given. Let $v21_quantal1 : \iota \Rightarrow o$ be given. Let $l3_quantal1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r3_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_quantal1 : \iota \Rightarrow o$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_quantal1 : \iota \Rightarrow o$ be given. Let $l4_algstr_0 : \iota \Rightarrow o$ be given. Let $l3_lattices : \iota \Rightarrow o$ be given. Let $l3_algstr_0 : \iota \Rightarrow o$ be given. Let $k5_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_quantal1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge ((v8_quantal1 X0) \wedge \\ & (l1_quantal1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\forall X4. (m1_subset_1 X4 \\ & (u1_struct_0 X0)) \Rightarrow (((r3_lattices X0 X1 X2) \wedge (r3_lattices X0 X3 \\ & X4)) \Rightarrow (r3_lattices X0 (k6_algstr_0 X0 X1 X3) (k6_algstr_0 X0 X2 X4))))))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_group_1 X0) \wedge ((v10_lattices \\ & X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge ((v8_quantal1 X0) \wedge \\ & (l1_quantal1 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r3_lattices X0 X2 X3) \Rightarrow ((r3_lattices \\ & X0 (k1_quantal1 X0 X3 X1) (k1_quantal1 X0 X2 X1)) \wedge (r3_lattices X0 \\ & (k2_quantal1 X0 X3 X1) (k2_quantal1 X0 X2 X1))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l3_quantal1 X0) \Rightarrow (l2_quantal1 X0) \tag{3}$$

Assume the following.

$$\forall X0.(l2_quantal1\ X0)\Rightarrow((l1_quantal1\ X0)\wedge(l4_algstr_0\ X0)) \quad (4)$$

Assume the following.

$$\forall X0.(l1_quantal1\ X0)\Rightarrow((l3_lattices\ X0)\wedge(l3_algstr_0\ X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.\forall X2.((l3_algstr_0\ X0)\wedge((m1_subset_1 \\ &X1\ (u1_struct_0\ X0))\wedge(m1_subset_1\ X2\ (u1_struct_0\ X0))))\Rightarrow(m1_subset_1 \\ &(k6_algstr_0\ X0\ X1\ X2)\ (u1_struct_0\ X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((\neg v2_struct_0\ X0)\wedge(l3_quantal1\ X0))\wedge \\ &(m1_subset_1\ X1\ (u1_struct_0\ X0)))\Rightarrow(m1_subset_1\ (k5_quantal1 \\ &X0\ X1)\ (u1_struct_0\ X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l3_quantal1\ X0)\Rightarrow(m1_subset_1\ (k3_quantal1\ X0)\ (u1_struct_0\ X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.(((\neg v2_struct_0\ X0)\wedge((v1_group_1\ X0)\wedge((v3_group_1 \\ &X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3\ X0)\wedge((v7_quantal1\ X0)\wedge \\ &((v8_quantal1\ X0)\wedge((v20_quantal1\ X0)\wedge((v21_quantal1\ X0)\wedge(l3_quantal1 \\ &X0))))))))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow \\ &(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(k9_quantal1\ X0 \\ &X1\ X2 = k5_quantal1\ X0\ (k6_algstr_0\ X0\ (k5_quantal1\ X0\ X1)\ (k5_quantal1 \\ &X0\ X2)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} &\forall X0.(((\neg v2_struct_0\ X0)\wedge(l3_quantal1\ X0))\Rightarrow(\forall X1. \\ &(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow(k5_quantal1\ X0\ X1 = k1_quantal1 \\ &X0\ X1\ (k3_quantal1\ X0)))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} &\forall X0.(((\neg v2_struct_0\ X0)\wedge((v1_group_1\ X0)\wedge((v3_group_1 \\ &X0)\wedge((v10_lattices\ X0)\wedge((v4_lattice3\ X0)\wedge((v7_quantal1\ X0)\wedge \\ &((v8_quantal1\ X0)\wedge((v20_quantal1\ X0)\wedge((v21_quantal1\ X0)\wedge(l3_quantal1 \\ &X0))))))))))\Rightarrow(\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0))\Rightarrow \\ &(\forall X2.(m1_subset_1\ X2\ (u1_struct_0\ X0))\Rightarrow(\forall X3.(m1_subset_1 \\ &X3\ (u1_struct_0\ X0))\Rightarrow(\forall X4.(m1_subset_1\ X4\ (u1_struct_0 \\ &X0))\Rightarrow(((r3_lattices\ X0\ X1\ X2)\wedge(r3_lattices\ X0\ X3\ X4))\Rightarrow(r3_lattices \\ &X0\ (k9_quantal1\ X0\ X1\ X3)\ (k9_quantal1\ X0\ X2\ X4)))))) \end{aligned}$$