

t33_quantal1

(TMKVP1Ku65ma8vf2CG1WdgcW7625LgBFzy6)

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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 $k9_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_quantal1 : \iota \Rightarrow \iota$ be given. Let $k6_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_quantal1 : \iota \Rightarrow \iota$ be given. Let $k5_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_quantal1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge \\ & ((v8_quantal1 X0) \wedge ((v20_quantal1 X0) \wedge ((v21_quantal1 X0) \wedge (l3_quantal1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & ((k6_algstr_0 X0 X1 (k4_quantal1 X0) = X1) \wedge (k6_algstr_0 X0 (k4_quantal1 \\ & X0) X1 = X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge \\ & ((v8_quantal1 X0) \wedge ((v20_quantal1 X0) \wedge ((v21_quantal1 X0) \wedge (l3_quantal1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (k5_quantal1 X0 (k5_quantal1 X0 X1) = X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l3_quantal1 X0)) \wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (m1_subset_1 (k5_quantal1 \\ & X0 X1) (u1_struct_0 X0)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l3_quantal1 X0) \Rightarrow (m1_subset_1 (k3_quantal1 X0) (u1_struct_0 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge \\ & ((v8_quantal1 X0) \wedge ((v20_quantal1 X0) \wedge ((v21_quantal1 X0) \wedge (l3_quantal1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (k9_quantal1 X0 \\ & X1 X2 = k5_quantal1 X0 (k6_algstr_0 X0 (k5_quantal1 X0 X1) (k5_quantal1 \\ & X0 X2)))))) \end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_quantal1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (k5_quantal1 X0 X1 = k1_quantal1 \\ & X0 X1 (k3_quantal1 X0))) \end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l3_quantal1 X0)) \Rightarrow (k4_quantal1 \\ & X0 = k1_quantal1 X0 (k3_quantal1 X0) (k3_quantal1 X0)) \end{aligned} \tag{7}$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_group_1 X0) \wedge ((v3_group_1 \\ & X0) \wedge ((v10_lattices X0) \wedge ((v4_lattice3 X0) \wedge ((v7_quantal1 X0) \wedge \\ & ((v8_quantal1 X0) \wedge ((v20_quantal1 X0) \wedge ((v21_quantal1 X0) \wedge (l3_quantal1 \\ & X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & ((k9_quantal1 X0 X1 (k3_quantal1 X0) = X1) \wedge (k9_quantal1 X0 (k3_quantal1 \\ & X0) X1 = X1))) \end{aligned}$$