

l38_poset_1
(TMPNS1gEzFYjnA2DgJVRuASu1cBPwNwCndS)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v1_poset_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r4_relat_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_poset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_tarski : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. (((v1_funct_1 X2) \wedge \\ & ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))))) \wedge ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 X0 X1) \wedge (m1_subset_1 \\ & X3 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow ((r2_funct_2 X0 X1 X2 \\ & X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge ((v3_orders_2 \\ & X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 X0) \wedge \\ & l1_orders_2 X0)))))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_orders_2 \\ & X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge \\ & ((v1_poset_1 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (\forall X2. ((v1_funct_1 \\ & X2) \wedge ((v1_funct_2 X2 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow \\ & (\forall X3. ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X0) \\ & (u1_struct_0 X1)) \wedge (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X1)))))) \Rightarrow (((r1_yellow_2 (u1_struct_0 \\ & X0) X1 X2 X3) \wedge (r1_yellow_2 (u1_struct_0 X0) X1 X3 X2)) \Rightarrow (r2_funct_2 \\ & (u1_struct_0 X0) (u1_struct_0 X1) X2 X3)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge \\ & ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 \\ & X0) \wedge (l1_orders_2 X0)))))) \wedge ((\neg v2_struct_0 X1) \wedge ((v1_orders_2 \\ & X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge \\ & ((v1_poset_1 X1) \wedge (l1_orders_2 X1))))))))) \Rightarrow (m1_subset_1 (k5_poset_1 \\ & X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k4_poset_1 X0 X1) (k4_poset_1 \\ & X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge ((v3_orders_2 \\ & X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 X0) \wedge (l1_orders_2 \\ & X0)))))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_orders_2 \\ & X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge \\ & ((v1_poset_1 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 (k4_poset_1 X0 X1) (k4_poset_1 X0 \\ & X1)))) \Rightarrow ((X2 = k5_poset_1 X0 X1) \Leftrightarrow (\forall X3. \forall X4. (k4_tarski \\ & X3 X4 \in X2) \Leftrightarrow ((X3 \in k4_poset_1 X0 X1) \wedge ((X4 \in k4_poset_1 X0 X1) \wedge (\exists X5. \\ & ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 (u1_struct_0 X0) (u1_struct_0 \\ & X1)) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 \\ & X0) (u1_struct_0 X1)))))) \wedge (\exists X6. ((v1_funct_1 X6) \wedge ((v1_funct_2 \\ & X6 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge (m1_subset_1 X6 (k1_zfmisc_1 \\ & (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 X1)))))) \wedge ((X3 = X5) \wedge \\ & ((X4 = X6) \wedge (r1_yellow_2 (u1_struct_0 X0) X1 X5 X6)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (v1_relat_1 X0) \Rightarrow (\forall X1. (r4_relat_2 X0 X1) \Leftrightarrow (\forall X2. \\ & \forall X3. ((X2 \in X1) \wedge ((X3 \in X1) \wedge ((k4_tarski X2 X3 \in X0) \wedge (k4_tarski \\ & X3 X2 \in X0)))) \Rightarrow (X2 = X3))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v1_orders_2 X0) \wedge ((v3_orders_2 \\ & X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_poset_1 X0) \wedge (l1_orders_2 \\ & X0)))))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((v1_orders_2 \\ & X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge \\ & ((v1_poset_1 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (r4_relat_2 (k5_poset_1 \\ & X0 X1) (k4_poset_1 X0 X1))) \end{aligned}$$