

t24_waybel16

(TMJZVzK6wu8oyi5B2r8qRe8p2KA1mkpovJH)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v1_waybel16 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r2_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\neg(r1_orders_2 X0 X1 X2) \wedge (r2_orders_2 X0 X2 \\ & X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(((X1 = k2_yellow_0 \\ & X0 X2) \wedge (r2_yellow_0 X0 X2)) \Rightarrow ((r1_lattice3 X0 X2 X1) \wedge (\forall X3. \\ & (m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 \\ & X0 X3 X1)))))) \wedge (((r1_lattice3 X0 X2 X1) \wedge (\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X2 X3) \Rightarrow (r1_orders_2 X0 X3 \\ & X1)))) \Rightarrow ((X1 = k2_yellow_0 X0 X2) \wedge (r2_yellow_0 X0 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((v1_waybel16 X1 X0) \Leftrightarrow (\exists X2.(m1_subset_1 \\ & X2 (u1_struct_0 X0)) \wedge ((r2_orders_2 X0 X1 X2) \wedge ((\forall X3.(m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((r2_orders_2 X0 X1 X3) \Rightarrow (r3_orders_2 X0 X2 \\ & X3)))) \wedge (k6_waybel_0 X0 X1 = k4_subset_1 (u1_struct_0 X0) (k6_domain_1 \\ & (u1_struct_0 X0) X1) (k6_waybel_0 X0 X2)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (v3_orders_2 \\ & X0) \wedge (l1_orders_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ & m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\ & X0 X1 X2)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_orders_2 X0) \Rightarrow (\forall X1. \forall X2. (m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((r1_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1_orders_2 X0 X2 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_orders_2 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r2_orders_2 \\ & X0 X1 X2) \Leftrightarrow ((r1_orders_2 X0 X1 X2) \wedge (X1 \neq X2)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v3_orders_2 X0) \wedge (v4_orders_2 \\ & X0) \wedge (v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (u1_struct_0 X0)) \Rightarrow ((v1_waybel16 X1 X0) \Rightarrow (\forall X2. (m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0)) \Rightarrow (((r2_yellow_0 X0 X2) \wedge (X1 = \\ & k2_yellow_0 X0 X2)) \Rightarrow (X1 \in X2)))))) \end{aligned}$$