

t41_waybel_0 (TMMxV-
GUn2QeyDrwfKjYfWQTRTsnvXWAdMZE)

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Let $v5_orders_2 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k12_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ & (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & (u1_struct_0 X0)) \Rightarrow ((X3 = k12_lattice3 X0 X1 X2) \Leftrightarrow ((r1_orders_2 \\ & X0 X3 X1) \wedge ((r1_orders_2 X0 X3 X2) \wedge (\forall X4. (m1_subset_1 X4 (\\ & u1_struct_0 X0)) \Rightarrow (((r1_orders_2 X0 X4 X1) \wedge (r1_orders_2 X0 X4 X2)) \Rightarrow \\ & (r1_orders_2 X0 X4 X3)))))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k12_lattice3 X0 X1 X2) (u1_struct_0 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_orders_2 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \Rightarrow ((v2_waybel_0 X1 X0) \Leftrightarrow (\forall X2. (m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 (u1_struct_0 \\ & X0)) \Rightarrow (\neg (X2 \in X1) \wedge ((X3 \in X1) \wedge (\forall X4. (m1_subset_1 X4 (u1_struct_0 \\ & X0)) \Rightarrow (\neg (X4 \in X1) \wedge ((r1_orders_2 X0 X4 X2) \wedge (r1_orders_2 X0 X4 X3)))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v13_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (((X2 \in X1) \wedge (r1_orders_2 X0 X2 X3)) \Rightarrow (X3 \in X1)))))) \end{aligned} \quad (5)$$

Theorem 1

$$\begin{aligned} \forall X0.((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 \\ X0))) \Rightarrow (\forall X1.((v13_waybel_0 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0)))) \Rightarrow ((v2_waybel_0 X1 X0) \Leftrightarrow (\forall X2.(m1_subset_1 \\ X2 (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 \\ X0)) \Rightarrow (((X2 \in X1) \wedge (X3 \in X1)) \Rightarrow (k12_lattice3 X0 X2 X3 \in X1)))))) \end{aligned}$$