

t25_waybel_3

(TMQprHNeybWnVyTmB6FCMj2ig28fpkabcwr)

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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 $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ 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 $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $r1_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_waybel_3 : \iota \Rightarrow o$ be given. Let $k2_waybel_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\ & \quad X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2. \\ (m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((X1 \in k1_waybel_3 X0 X2) \Leftrightarrow (r1_waybel_3 \\ & \quad X0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & \quad X0) \wedge ((v2_lattice3 X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ & ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((\neg v1_xboole_0 \\ & \quad (k1_waybel_3 X0 X1)) \wedge (v1_waybel_0 (k1_waybel_3 X0 X1) X0))) \Rightarrow (\\ & \quad (v2_waybel_3 X0) \Leftrightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & \quad (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow (\neg(\neg r3_orders_2 \\ & \quad X0 X1 X2) \wedge (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow (\neg(r1_waybel_3 \\ & \quad X0 X3 X1) \wedge (\neg r3_orders_2 X0 X3 X2)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\ & \quad X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & \quad X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r1_waybel_3 \\ & \quad X0 X1 X2) \Rightarrow (r3_orders_2 X0 X1 X2)))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r3_orders_2 \\ & X0 X1 X2) \Rightarrow ((r1_tarski (k1_waybel_3 X0 X1) (k1_waybel_3 X0 X2)) \wedge \\ & (r1_tarski (k2_waybel_3 X0 X2) (k2_waybel_3 X0 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\ & ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge (l1_orders_2 X0)))) \wedge (\\ & m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow (v1_waybel_0 (k1_waybel_3 \\ & X0 X1) X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 \\ & X0))) \Rightarrow ((v3_waybel_3 X0) \Leftrightarrow ((\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow ((\neg v1_xboole_0 (k1_waybel_3 X0 X1)) \wedge (v1_waybel_0 (k1_waybel_3 \\ & X0 X1) X0)))) \wedge ((v24_waybel_0 X0) \wedge (v2_waybel_3 X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (7)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0. (((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_waybel_3 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X0)) \Rightarrow ((r3_orders_2 \\ & X0 X1 X2) \Leftrightarrow (r1_tarski (k1_waybel_3 X0 X1) (k1_waybel_3 X0 X2)))))) \end{aligned}$$