

t10_waybel_9
(TMYQUV3yH4qjsYha8yds19RR55hx4uLDDEa)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v4_orders_2 : \iota \Rightarrow o$ be given. Let $v7_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_waybel_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $v6_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((v4_orders_2 X0) \Leftrightarrow (v4_orders_2 (g1_orders_2 (u1_struct_0 X0) (u1_orders_2 X0)))) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge ((\neg v2_struct_0 X2) \wedge ((v7_waybel_0 X2) \wedge (l1_waybel_0 X2 X0)))))) \Rightarrow ((v6_waybel_0 (k3_waybel_2 X0 X1 X2) X0) \wedge (v7_waybel_0 (k3_waybel_2 X0 X1 X2))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge ((\neg v2_struct_0 X2) \wedge (l1_waybel_0 X2 X0)))) \Rightarrow ((\neg v2_struct_0 (k3_waybel_2 X0 X1 X2)) \wedge (v6_waybel_0 (k3_waybel_2 X0 X1 X2) X0)) \quad (3)$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (\forall X1. (l1_waybel_0 X1 X0) \Rightarrow (l1_orders_2 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_orders_2 \\ & X0))\wedge((m1_subset_1 X1 (u1_struct_0 X0))\wedge((\neg v2_struct_0 X2)\wedge \\ & (l1_waybel_0 X2 X0))))\Rightarrow((v6_waybel_0 (k3_waybel_2 X0 X1 X2) X0)\wedge \\ & (l1_waybel_0 (k3_waybel_2 X0 X1 X2) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.((\neg v2_struct_0 \\ & X2)\wedge(l1_waybel_0 X2 X0))\Rightarrow(\forall X3.((v6_waybel_0 X3 X0)\wedge(l1_waybel_0 \\ & X3 X0))\Rightarrow((X3 = k3_waybel_2 X0 X1 X2)\Leftrightarrow((g1_orders_2 (u1_struct_0 \\ & X3) (u1_orders_2 X3) = g1_orders_2 (u1_struct_0 X2) (u1_orders_2 \\ & X2))\wedge(\forall X4.(m1_subset_1 X4 (u1_struct_0 X3))\Rightarrow(\exists X5. \\ & (m1_subset_1 X5 (u1_struct_0 X0))\wedge((X5 = k1_funct_1 (u1_waybel_0 \\ & X0 X2) X4)\wedge(k1_funct_1 (u1_waybel_0 X0 X3) X4 = k11_lattice3 X0 X1 \\ & X5)))))))))) \end{aligned} \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(\forall X2.((\neg v2_struct_0 \\ & X2)\wedge((v4_orders_2 X2)\wedge((v7_waybel_0 X2)\wedge(l1_waybel_0 X2 X0))))\Rightarrow \\ & ((\neg v2_struct_0 (k3_waybel_2 X0 X1 X2))\wedge((v4_orders_2 (k3_waybel_2 \\ & X0 X1 X2))\wedge((v7_waybel_0 (k3_waybel_2 X0 X1 X2))\wedge(l1_waybel_0 \\ & (k3_waybel_2 X0 X1 X2) X0)))))) \end{aligned}$$