

t27_waybel15

(TMGwPks5efHQwKYoFLheWrRe1VcS4okZaZr)

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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 $v11_waybel_1 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_waybel_8 : \iota \Rightarrow o$ be given. Let $r5_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_yellow_1 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v1_waybel_5 : \iota \Rightarrow o$ be given. Let $v2_waybel_1 : \iota \Rightarrow o$ be given. Let $k7_lattice3 : \iota \Rightarrow \iota$ be given. Let $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel15 : \iota \Rightarrow \iota$ be given. Let $k1_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_yellow_0 : \iota \Rightarrow o$ be given. Let $v10_waybel_1 : \iota \Rightarrow o$ be given. Let $v2_yellow_0 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $v2_waybel_3 : \iota \Rightarrow o$ be given. Let $v2_waybel_8 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ &X0) \wedge ((v5_orders_2 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1. ((\neg \\ v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 \\ X1) \wedge (l1_orders_2 X1)))))) \Rightarrow (((r5_waybel_1 X0 X1) \wedge (v3_waybel_3 \\ X0)) \Rightarrow (v3_waybel_3 X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow ((r5_waybel_1 X0 X1) \Rightarrow (\\ r5_waybel_1 X1 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0. (&(v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge \\ (l1_orders_2 X0))))))) \Rightarrow ((v1_waybel_5 X0) \Leftrightarrow ((v2_waybel_1 X0) \wedge \\ ((v3_waybel_3 X0) \wedge (v3_waybel_3 (k7_lattice3 X0)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v11_waybel_1 X0) \wedge (l1_orders_2 X0))))))) \Rightarrow (r5_waybel_1 X0 (k7_lattice3 X0)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ (\forall X1.((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge ((v1_lattice3 X1) \wedge ((v2_lattice3 X1) \wedge (l1_orders_2 X1)))))) \Rightarrow \\ ((r5_waybel_1 X0 X1) \wedge ((v1_yellow_0 X0) \wedge (v3_waybel_8 X0))) \Rightarrow \\ (v3_waybel_8 X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v11_waybel_1 X0) \wedge (l1_orders_2 X0))))))) \Rightarrow (\neg(v3_lattice3 X0) \wedge ((\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\exists X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((r1_tarski X2 (k1_waybel15 X0)) \wedge (X1 = k1_yellow_0 X0 X2)))))) \wedge (\forall X1.\neg r5_waybel_1 X0 (k3_yellow_1 X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v11_waybel_1 X0) \wedge (l1_orders_2 X0))))))) \Rightarrow ((v1_waybel_5 X0) \Rightarrow ((v3_lattice3 X0) \wedge (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\exists X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge ((r1_tarski X2 (k1_waybel15 X0)) \wedge (X1 = k1_yellow_0 X0 X2))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k3_yellow_1 X0)) \wedge (v3_lattice3 (k3_yellow_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(\neg v2_struct_0 (k3_yellow_1 X0)) \wedge ((v1_orders_2 (k3_yellow_1 X0)) \wedge ((v3_orders_2 (k3_yellow_1 X0)) \wedge ((v4_orders_2 (k3_yellow_1 X0)) \wedge (v5_orders_2 (k3_yellow_1 X0)))))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow ((\neg v2_struct_0 (k7_lattice3 X0)) \wedge (v1_orders_2 (k7_lattice3 X0))) \quad (10)$$

Assume the following.

$$\forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge(l1_orders_2 X0))))\Rightarrow((v1_orders_2 (k7_lattice3 X0))\wedge((v3_orders_2 (k7_lattice3 X0))\wedge((v4_orders_2 (k7_lattice3 X0))\wedge(v5_orders_2 (k7_lattice3 X0)))))) \quad (11)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k3_yellow_1 X0))\wedge(v3_waybel_8 (k3_yellow_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v1_orders_2 (k7_lattice3 X0))\wedge(l1_orders_2 (k7_lattice3 X0))) \quad (13)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k3_yellow_1 X0))\wedge(l1_orders_2 (k3_yellow_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge(v11_waybel_1 X0))\Rightarrow((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge((v3_yellow_0 X0)\wedge((v2_waybel_1 X0)\wedge(v10_waybel_1 X0)))))))))) \quad (15)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow((v3_yellow_0 X0)\Rightarrow((v1_yellow_0 X0)\wedge(v2_yellow_0 X0))) \quad (16)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge(v3_waybel_3 X0)))\Rightarrow((\neg v2_struct_0 X0)\wedge((v3_orders_2 X0)\wedge((v24_waybel_0 X0)\wedge(v2_waybel_3 X0)))))) \quad (17)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((\neg v2_struct_0 X0)\wedge(v3_lattice3 X0))\Rightarrow((\neg v2_struct_0 X0)\wedge(v3_yellow_0 X0))) \quad (18)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge(v3_waybel_8 X0))))))\Rightarrow((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 X0)\wedge((v1_lattice3 X0)\wedge((v2_lattice3 X0)\wedge(v2_waybel_8 X0)))))) \quad (19)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_lattice3 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_lattice3 X0) \wedge (v2_lattice3 X0)))) \quad (20)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (v2_waybel_8 X0)))))) \Rightarrow ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge (v3_waybel_3 X0))))))) \quad (21)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (22)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v1_yellow_0 X0) \wedge (v24_waybel_0 X0))))))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge (v3_lattice3 X0)))))) \quad (23)$$

Theorem 1

$$\forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v11_waybel_1 X0) \wedge (l1_orders_2 X0))))))) \Rightarrow ((v3_waybel_8 X0) \Leftrightarrow (\exists X1.r5_waybel_1 X0 (k3_yellow_1 X1)))$$