

t27_waybel31
(TMUW8fyD3CJJ7YiL5Q75FSDe8c5rte3ybbC)

October 27, 2020

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 $v1_yellow_0 : \iota \Rightarrow o$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v6_waybel23 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_waybel23 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $k1_waybel31 : \iota \Rightarrow \iota$ be given. Let $k2_yellow_1 : \iota \Rightarrow \iota$ be given. Let $k7_waybel_0 : \iota \Rightarrow \iota$ be given. Let $k5_yellow_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_waybel_8 : \iota \Rightarrow \iota$ be given. Let $v2_waybel_8 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_waybel23 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v25_waybel_0 : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_yellow_0 X0) \wedge ((v1_lattice3 X0) \wedge ((v3_waybel_3 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v6_waybel23 X1 X0) \wedge (m1_waybel23 \\ & X1 X0)) \Rightarrow (r5_waybel_1 (k1_waybel_8 (k2_yellow_1 (k7_waybel_0 \\ & (k5_yellow_0 X0 X1)))) (k5_yellow_0 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_yellow_0 X0) \wedge ((v2_waybel_8 X0) \wedge ((v1_lattice3 X0) \wedge \\ & ((v2_lattice3 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (k1_waybel31 X0 = \\ & k1_card_1 (u1_struct_0 (k1_waybel_8 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow ((r5_waybel_1 X0 X1) \Rightarrow (\\ & k1_card_1 (u1_struct_0 X0) = k1_card_1 (u1_struct_0 X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v1_lattice3 X0) \wedge ((v1_yellow_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow \\ ((v1_orders_2 (k2_yellow_1 (k7_waybel_0 X0))) \wedge (v3_lattice3 \\ (k2_yellow_1 (k7_waybel_0 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((\neg v2_struct_0 (k2_yellow_1 X0)) \wedge \\ (v1_orders_2 (k2_yellow_1 X0))) \quad (5)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k2_yellow_1 X0)) \wedge ((v3_orders_2 (k2_yellow_1 \\ X0)) \wedge ((v4_orders_2 (k2_yellow_1 X0)) \wedge (v5_orders_2 (k2_yellow_1 \\ X0)))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\neg v1_xboole_0 (k7_waybel_0 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge \\ ((v1_lattice3 X0) \wedge (l1_orders_2 X0)))) \wedge ((\neg v1_xboole_0 X1) \wedge (\\ (v2_waybel23 X1 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\ X0)))))) \Rightarrow ((v1_orders_2 (k5_yellow_0 X0 X1)) \wedge ((v4_yellow_0 (\\ k5_yellow_0 X0 X1) X0) \wedge (v1_lattice3 (k5_yellow_0 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v5_orders_2 \\ X0) \wedge ((v1_yellow_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow ((\neg v2_struct_0 \\ (k1_waybel_8 X0)) \wedge ((v1_orders_2 (k1_waybel_8 X0)) \wedge (v4_yellow_0 \\ (k1_waybel_8 X0) X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\ ((v5_orders_2 X0) \wedge ((v1_yellow_0 X0) \wedge ((v1_lattice3 X0) \wedge ((v3_waybel_3 \\ X0) \wedge (l1_orders_2 X0))))))) \wedge ((v6_waybel23 X1 X0) \wedge (m1_waybel23 \\ X1 X0))) \Rightarrow ((v1_orders_2 (k2_yellow_1 (k7_waybel_0 (k5_yellow_0 \\ X0 X1)))) \wedge (v2_waybel_8 (k2_yellow_1 (k7_waybel_0 (k5_yellow_0 \\ X0 X1)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v5_orders_2 X0)\wedge(l1_orders_2 X0))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_orders_2 \\ & (k5_yellow_0 X0 X1))\wedge((v5_orders_2 (k5_yellow_0 X0 X1))\wedge(v4_yellow_0 \\ & (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v4_orders_2 X0)\wedge(l1_orders_2 X0))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_orders_2 \\ & (k5_yellow_0 X0 X1))\wedge((v4_orders_2 (k5_yellow_0 X0 X1))\wedge(v4_yellow_0 \\ & (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v3_orders_2 X0)\wedge(l1_orders_2 X0))\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_orders_2 \\ & (k5_yellow_0 X0 X1))\wedge((v3_orders_2 (k5_yellow_0 X0 X1))\wedge(v4_yellow_0 \\ & (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge((v5_orders_2 X0)\wedge \\ & ((v1_yellow_0 X0)\wedge(l1_orders_2 X0))))\wedge((v6_waybel23 X1 X0)\wedge \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow((v1_orders_2 \\ & (k5_yellow_0 X0 X1))\wedge((v1_yellow_0 (k5_yellow_0 X0 X1))\wedge(v4_yellow_0 \\ & (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0)\Rightarrow(\forall X1.(m1_yellow_0 X1 X0)\Rightarrow(l1_orders_2 X1)) \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v5_orders_2 \\ & X0)\wedge((v1_lattice3 X0)\wedge((v3_waybel_3 X0)\wedge(l1_orders_2 X0))))))\Rightarrow \\ & (\forall X1.(m1_waybel23 X1 X0)\Rightarrow(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((l1_orders_2 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0))))\Rightarrow((v1_orders_2 (k5_yellow_0 X0 X1))\wedge((v4_yellow_0 \\ & (k5_yellow_0 X0 X1) X0)\wedge(m1_yellow_0 (k5_yellow_0 X0 X1) X0))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k2_yellow_1 X0)) \wedge (l1_orders_2 (k2_yellow_1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (l1_orders_2 X0))) \Rightarrow ((v1_orders_2 (k1_waybel_8 X0)) \wedge ((v4_yellow_0 (k1_waybel_8 X0) X0) \wedge (m1_yellow_0 (k1_waybel_8 X0) X0))) \quad (19)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.((v1_orders_2 X2) \wedge ((v4_yellow_0 X2 X0) \wedge (m1_yellow_0 X2 X0))) \Rightarrow ((X2 = k5_yellow_0 X0 X1) \Leftrightarrow (u1_struct_0 X2 = X1)))) \quad (20)$$

Assume the following.

$$\forall X0.(((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v3_waybel_3 X0) \wedge (l1_orders_2 X0))))))) \Rightarrow (\forall X1.(m1_waybel23 X1 X0) \Rightarrow (v2_waybel23 X1 X0)) \quad (21)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((v6_waybel23 X1 X0) \Rightarrow (\neg v1_xboole_0 X1))) \quad (22)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_lattice3 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_lattice3 X0) \wedge (v2_lattice3 X0)))) \quad (23)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (24)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v25_waybel_0 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v1_yellow_0 X0)))) \quad (25)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v3_lattice3 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge (v25_waybel_0 X0)))))) \quad (26)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge (v4_orders_2 X0) \wedge ((v5_orders_2 \\ & X0) \wedge ((v1_yellow_0 X0) \wedge (v1_lattice3 X0) \wedge (v3_waybel_3 X0) \wedge \\ & (l1_orders_2 X0)))))) \Rightarrow (\forall X1.((v6_waybel23 X1 X0) \wedge (m1_waybel23 \\ & X1 X0)) \Rightarrow ((k1_card_1 X1 = k1_waybel31 X0) \Rightarrow (k1_waybel31 X0 = k1_waybel31 \\ & (k2_yellow_1 (k7_waybel_0 (k5_yellow_0 X0 X1)))))) \end{aligned}$$