

t26_waybel26 (TMLLEBgvnYuupBFkoZaK- JACugbgMq79AvKE)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v7_struct_0 : \iota \Rightarrow o$ be given. Let $v6_pre_topc : \iota \Rightarrow o$ be given. Let $v1_waybel25 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $k1_waybel26 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_waybel_3 : \iota \Rightarrow o$ be given. Let $k2_yellow_1 : \iota \Rightarrow \iota$ be given. Let $u1_pre_topc : \iota \Rightarrow \iota$ be given. 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 $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r5_waybel_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_waybel18 : \iota$ be given. Let $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v7_pre_topc : \iota \Rightarrow o$ be given. Let $r1_waybel18 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_monoid_0 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (r5_waybel_1 (k2_yellow_1 (u1_pre_topc X0)) (k1_waybel26 \\ X0 k9_waybel18)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc \\ X0))) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge (\\ v2_pre_topc X1) \wedge ((v6_pre_topc X1) \wedge (l1_pre_topc X1)))))) \Rightarrow (\neg (\\ v1_lattice3 (k1_waybel26 X0 X1)) \wedge (v7_pre_topc X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((\neg v7_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge ((v6_pre_topc X0) \wedge (l1_pre_topc X0)))))) \Rightarrow ((\neg v7_pre_topc X0) \Rightarrow (r1_waybel18 k9_waybel18 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge ((v6_pre_topc X1) \wedge ((v1_waybel25 X1) \wedge (l1_pre_topc X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v2_pre_topc X2) \wedge ((v6_pre_topc X2) \wedge ((v1_waybel25 X2) \wedge (l1_pre_topc X2)))))) \Rightarrow (((r1_waybel18 X1 X2) \wedge ((v3_lattice3 (k1_waybel26 X0 X2)) \wedge (v3_waybel_3 (k1_waybel26 X0 X2)))) \Rightarrow ((v3_lattice3 (k1_waybel26 X0 X1)) \wedge (v3_waybel_3 (k1_waybel26 X0 X1)))))) \quad (6) \end{aligned}$$

Assume the following.

$$\forall X0.(\neg v1_xboole_0 X0) \Rightarrow ((\neg v2_struct_0 (k2_yellow_1 X0)) \wedge (v1_orders_2 (k2_yellow_1 X0))) \quad (7)$$

Assume the following.

$$(v1_pre_topc k9_waybel18) \wedge (v6_pre_topc k9_waybel18) \quad (8)$$

Assume the following.

$$\forall X0.(v1_orders_2 (k2_yellow_1 X0)) \wedge ((v3_orders_2 (k2_yellow_1 X0)) \wedge ((v4_orders_2 (k2_yellow_1 X0)) \wedge (v5_orders_2 (k2_yellow_1 X0)))) \quad (9)$$

Assume the following.

$$(\neg v2_struct_0 k9_waybel18) \wedge ((v1_pre_topc k9_waybel18) \wedge (v2_pre_topc k9_waybel18)) \quad (10)$$

Assume the following.

$$(\neg v7_struct_0 k9_waybel18) \wedge ((v1_pre_topc k9_waybel18) \wedge (v1_waybel25 k9_waybel18)) \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge ((v2_pre_topc X0) \wedge (l1_pre_topc X0))) \wedge ((\neg v2_struct_0 X1) \wedge ((v2_pre_topc X1) \wedge ((v6_pre_topc X1) \wedge (l1_pre_topc X1)))))) \Rightarrow ((\neg v2_struct_0 (k1_waybel26 X0 X1)) \wedge ((v1_orders_2 (k1_waybel26 X0 X1)) \wedge (v5_orders_2 (k1_waybel26 X0 X1)))) \quad (12) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0)) \wedge ((\neg v2_struct_0 X1) \wedge (v2_pre_topc X1) \wedge (l1_pre_topc \\ & X1))) \Rightarrow ((\neg v2_struct_0 (k1_waybel26 X0 X1)) \wedge ((v1_monoid_0 (k1_waybel26 \\ & X0 X1)) \wedge ((v1_orders_2 (k1_waybel26 X0 X1)) \wedge ((v3_orders_2 (k1_waybel26 \\ & X0 X1)) \wedge (v4_orders_2 (k1_waybel26 X0 X1)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0. ((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\neg v1_xboole_0 (u1_pre_topc X0)) \quad (14)$$

Assume the following.

$$(v1_pre_topc k9_waybel18) \wedge (l1_pre_topc k9_waybel18) \quad (15)$$

Assume the following.

$$\forall X0. (v1_orders_2 (k2_yellow_1 X0)) \wedge (l1_orders_2 (k2_yellow_1 X0)) \quad (16)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge \\ & (l1_pre_topc X0)) \wedge ((\neg v2_struct_0 X1) \wedge (v2_pre_topc X1) \wedge (l1_pre_topc \\ & X1))) \Rightarrow ((\neg v2_struct_0 (k1_waybel26 X0 X1)) \wedge ((v1_orders_2 (k1_waybel26 \\ & X0 X1)) \wedge (l1_orders_2 (k1_waybel26 X0 X1)))) \end{aligned} \quad (17)$$

Assume the following.

$$\forall X0. (l1_pre_topc X0) \Rightarrow ((v7_pre_topc X0) \Rightarrow (v6_pre_topc X0)) \quad (18)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_lattice3 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_lattice3 X0) \wedge (v2_lattice3 X0)))) \quad (19)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (v2_pre_topc X0) \wedge (l1_pre_topc \\ & X0)) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge ((\neg v7_struct_0 X1) \wedge ((\\ & v2_pre_topc X1) \wedge (v6_pre_topc X1) \wedge ((v1_waybel25 X1) \wedge (l1_pre_topc \\ & X1)))))) \Rightarrow (((v3_lattice3 (k1_waybel26 X0 X1)) \wedge (v3_waybel_3 (\\ & k1_waybel26 X0 X1))) \Rightarrow (v3_waybel_3 (k2_yellow_1 (u1_pre_topc \\ & X0)))))) \end{aligned}$$