

t19_waybel32 (TMax- GaiXM5MBYkoKHEkWkTxWUj3ypcN8KFx)

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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 $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v16_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v4_waybel11 : \iota \Rightarrow o$ be given. Let $m1_yellow_9 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $v24_waybel_0 : \iota \Rightarrow o$ be given. Let $l1_waybel_9 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v25_waybel_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge ((v1_lattice3 X0) \wedge \\ & ((v2_lattice3 X0) \wedge ((v4_waybel11 X0) \wedge (l1_waybel_9 X0)))))))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (v3_pre_topc (\\ & k3_subset_1 (u1_struct_0 X0) (k5_waybel_0 X0 X1)) X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_yellow_9 X1 X0) \Rightarrow (l1_waybel_9 X1)) \quad (2)$$

Assume the following.

$$\forall X0.(l1_waybel_9 X0) \Rightarrow ((l1_pre_topc X0) \wedge (l1_orders_2 X0)) \quad (3)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_lattice3 X0) \wedge (l1_orders_2 X0))) \Rightarrow (\forall X1.(m1_yellow_9 X1 X0) \Rightarrow (v3_lattice3 X1)) \quad (4)$$

Assume the following.

$$\forall X0.((v5_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1.(m1_yellow_9 X1 X0) \Rightarrow (v5_orders_2 X1)) \quad (5)$$

Assume the following.

$$\forall X0.((v4_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (v4_orders_2 X1)) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge (l1_orders_2 X0)))))) \Rightarrow (\forall X1.(m1_yellow_9 X1 X0) \Rightarrow ((v4_waybel11 X1) \Rightarrow (v2_pre_topc X1))) \quad (7)$$

Assume the following.

$$\forall X0.((v3_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (v3_orders_2 X1)) \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. (m1_yellow_9 X1 X0) \Rightarrow (\neg v2_struct_0 X1)) \quad (9)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge (v3_lattice3 X0)) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v1_lattice3 X0) \wedge (v2_lattice3 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow ((v1_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1_orders_2 X0) \Rightarrow (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge (v3_lattice3 X0))) \Rightarrow ((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v24_waybel_0 X0) \wedge (v25_waybel_0 X0)))))) \quad (12)$$

Theorem 1

$$\forall X0.((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge ((v3_lattice3 X0) \wedge ((v16_waybel_0 X0) \wedge (l1_orders_2 X0)))))))) \Rightarrow (\forall X1.((v4_waybel11 X1) \wedge (m1_yellow_9 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (v3_pre_topc (k3_subset_1 (u1_struct_0 X1) (k5_waybel_0 X1 X2)) X1)))$$