

t21_waybel30 (TMRBBW- suncvswnhv4tcDF9P5XVDdGZ2KH6x)

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Let $v2_pre_topc : \iota \Rightarrow o$ 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 $v1_lattice3 : \iota \Rightarrow o$ be given. Let $v2_lattice3 : \iota \Rightarrow o$ be given. Let $v3_lattice3 : \iota \Rightarrow o$ be given. Let $v2_waybel19 : \iota \Rightarrow o$ be given. Let $v2_waybel_2 : \iota \Rightarrow o$ be given. Let $l1_waybel_9 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $v5_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v19_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v22_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $r3_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v2_pre_topc\ X0) \wedge ((v3_orders_2\ X0) \wedge ((v4_orders_2\ X0) \wedge ((v5_orders_2\ X0) \wedge ((v1_lattice3\ X0) \wedge ((v2_lattice3\ X0) \wedge ((v3_lattice3\ X0) \wedge ((v2_waybel19\ X0) \wedge (l1_waybel_9\ X0)))))))))) \Rightarrow \\
& (\forall X1.((v2_pre_topc\ X1) \wedge ((v3_orders_2\ X1) \wedge ((v4_orders_2\ X1) \wedge ((v5_orders_2\ X1) \wedge ((v1_lattice3\ X1) \wedge ((v2_lattice3\ X1) \wedge ((v3_lattice3\ X1) \wedge ((v2_waybel19\ X1) \wedge (l1_waybel_9\ X1)))))))))) \Rightarrow \\
& (\forall X2.((v1_funct_1\ X2) \wedge ((v1_funct_2\ X2\ (u1_struct_0\ X0) (u1_struct_0\ X1)) \wedge ((v19_waybel_0\ X2\ X0\ X1) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ (u1_struct_0\ X0) (u1_struct_0\ X1)))))) \Rightarrow ((v5_pre_topc\ X2\ X0\ X1) \Leftrightarrow ((v22_waybel_0\ X2\ X0\ X1) \wedge (\forall X3.((\neg v1_xboole_0\ X3) \wedge (m1_subset_1\ X3\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (r3_waybel_0\ X0\ X1\ X2\ X3))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0\ X0) \wedge ((v3_orders_2\ X0) \wedge ((v4_orders_2\ X0) \wedge ((v5_orders_2\ X0) \wedge ((v3_lattice3\ X0) \wedge (l1_orders_2\ X0)))))) \Rightarrow \\
& (\forall X1.(m1_subset_1\ X1\ (u1_struct_0\ X0)) \Rightarrow (\forall X2.((\neg v1_xboole_0\ X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (u1_struct_0\ X0)))) \Rightarrow (r3_waybel_0\ X0\ X0\ (k4_waybel_1\ X0\ X1)\ X2)))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge \\ & ((v4_orders_2 X0) \wedge ((v5_orders_2 X0) \wedge ((v3_lattice3 X0) \wedge (l1_orders_2 \\ & X0)))))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((v1_funct_1 (k4_waybel_1 \\ & X0 X1)) \wedge ((v1_funct_2 (k4_waybel_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (v19_waybel_0 (k4_waybel_1 X0 X1) X0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v3_orders_2 X0) \wedge ((v4_orders_2 X0) \wedge \\ & ((v5_orders_2 X0) \wedge ((v2_lattice3 X0) \wedge ((v2_waybel_2 X0) \wedge (l1_orders_2 \\ & X0)))))) \wedge (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((v1_funct_1 (k4_waybel_1 \\ & X0 X1)) \wedge ((v1_funct_2 (k4_waybel_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (v22_waybel_0 (k4_waybel_1 X0 X1) X0 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l1_waybel_9 X0) \Rightarrow ((l1_pre_topc X0) \wedge (l1_orders_2 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\ & (m1_subset_1 X1 (u1_struct_0 X0))) \Rightarrow ((v1_funct_1 (k4_waybel_1 \\ & X0 X1)) \wedge ((v1_funct_2 (k4_waybel_1 X0 X1) (u1_struct_0 X0) (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 (k4_waybel_1 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 \\ & (u1_struct_0 X0) (u1_struct_0 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow ((v2_lattice3 X0) \Rightarrow (\neg v2_struct_0 X0)) \quad (7)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((v2_pre_topc X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\ & X0) \wedge ((v5_orders_2 X0) \wedge ((v1_lattice3 X0) \wedge ((v2_lattice3 X0) \wedge \\ & ((v3_lattice3 X0) \wedge ((v2_waybel19 X0) \wedge ((v2_waybel_2 X0) \wedge (l1_waybel_9 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (v5_pre_topc (k4_waybel_1 X0 X1) X0 X0)) \end{aligned}$$