

t13_waybel19
(TMNQ9JWM2J3YsUQJJ4C7XvMbwLL3XcDBdLA)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. 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 $v1_waybel19 : \iota \Rightarrow o$ 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 $k2_pre_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_domain_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v13_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ 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 $k1_tarski : \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((r1_tarski X1 X2) \Rightarrow (r1_tarski (k4_waybel_0 \\ X0 X1) (k4_waybel_0 X0 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v4_orders_2 X0) \wedge ((v1_waybel19 \\ X0) \wedge (l1_waybel_9 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v4_pre_topc X1 X0) \Rightarrow (v13_waybel_0 X1 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow (((v4_pre_topc X1 X0) \wedge (r1_tarski X2 X1)) \Rightarrow \\ (r1_tarski (k2_pre_topc X0 X2) X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge ((v1_waybel19 X0) \wedge (l1_waybel_9 \\ X0))) \Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow ((v3_pre_topc \\ (k3_subset_1 (u1_struct_0 X0) (k6_waybel_0 X0 X1)) X0) \wedge (v4_pre_topc \\ (k6_waybel_0 X0 X1) X0))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(r1_tarski (k1_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\ (u1_struct_0 X0))) \Rightarrow ((v13_waybel_0 X1 X0) \Leftrightarrow (r1_tarski (k4_waybel_0 \\ X0 X1) X1))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ (u1_struct_0 X0)) \Rightarrow ((X2 \in k6_waybel_0 X0 X1) \Leftrightarrow (r1_orders_2 X0 X1 \\ X2)))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.(l1_pre_topc X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (r1_tarski X1 (k2_pre_topc X0 X1))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow (r3_orders_2 X0 X1 X1) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge ((v3_orders_2 \\ X0) \wedge (l1_orders_2 X0))) \wedge ((m1_subset_1 X1 (u1_struct_0 X0)) \wedge (\\ m1_subset_1 X2 (u1_struct_0 X0)))) \Rightarrow ((r3_orders_2 X0 X1 X2) \Leftrightarrow (r1_orders_2 \\ X0 X1 X2)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 X0))\Rightarrow (k6_domain_1 X0 X1 = k1_tarski X1) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(((v2_pre_topc X0)\wedge(l1_pre_topc X0))\wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))))\Rightarrow(v4_pre_topc (k2_pre_topc X0 X1) X0) \quad (15)$$

Assume the following.

$$\forall X0.(l1_waybel_9 X0)\Rightarrow((l1_pre_topc X0)\wedge(l1_orders_2 X0)) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\wedge (m1_subset_1 X1 (u1_struct_0 X0)))\Rightarrow(m1_subset_1 (k6_waybel_0 X0 X1) (k1_zfmisc_1 (u1_struct_0 X0))) \quad (17)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_orders_2 X0))\Rightarrow(\forall X1. (m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k6_waybel_0 X0 X1 = k4_waybel_0 X0 (k6_domain_1 (u1_struct_0 X0) X1))) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1_tarski X0 X1)\wedge(r1_tarski X1 X0)) \quad (19)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge((v2_pre_topc X0)\wedge((v3_orders_2 X0)\wedge((v4_orders_2 X0)\wedge((v1_waybel19 X0)\wedge(l1_waybel_9 X0))))))\Rightarrow (\forall X1.(m1_subset_1 X1 (u1_struct_0 X0))\Rightarrow(k2_pre_topc X0 (k6_domain_1 (u1_struct_0 X0) X1) = k6_waybel_0 X0 X1))$$