

t9_waybel_0 (TM-
TAU6KFmEsDGQGhXbYBT1BsXiQqbG5hcup)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $k4_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. k6_subset_1 X0 X1 = k4_xboole_0 X0 X1 \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X1)))) \Rightarrow (m1_subset_1 (k2_waybel_0 X0 X1 X2) (u1_struct_0 X0)) \quad (4)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (k2_waybel_0 X0 X1 X2 = k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) (u1_waybel_0 X0 X1) X2))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(X2 = k4_xboole_0 X0 X1) \Leftrightarrow (\forall X3. \\ (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (\neg X3 \in X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2.(r2_waybel_0 \\ X0 X1 X2) \Leftrightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X1)) \Rightarrow (\exists X4. \\ (m1_subset_1 X4 (u1_struct_0 X1)) \wedge ((r1_orders_2 X1 X3 X4) \wedge (k2_waybel_0 \\ X0 X1 X4 \in X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2.(r1_waybel_0 \\ X0 X1 X2) \Leftrightarrow (\exists X3.(m1_subset_1 X3 (u1_struct_0 X1)) \wedge (\forall X4. \\ (m1_subset_1 X4 (u1_struct_0 X1)) \Rightarrow ((r1_orders_2 X1 X3 X4) \Rightarrow (k2_waybel_0 \\ X0 X1 X4 \in X2)))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\ ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2.(r1_waybel_0 \\ X0 X1 X2) \Leftrightarrow (\neg r2_waybel_0 X0 X1 (k6_subset_1 (u1_struct_0 X0) X2)))) \end{aligned}$$