

t31_waybel_0
(TMTcrsqL6SMCKWWHchNuy2pDQ7HeAPZGa1i)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $v4_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r2_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v4_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow (\forall X2.(m1_subset_1 X2 \\ & (u1_struct_0 X0)) \Rightarrow (\forall X3.(m1_subset_1 X3 (u1_struct_0 X0)) \Rightarrow \\ & (((r1_orders_2 X0 X1 X2) \wedge (r1_orders_2 X0 X2 X3)) \Rightarrow (r1_orders_2 \\ & X0 X1 X3)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_orders_2 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow ((r1_tarski \\ & X1 (k3_waybel_0 X0 X1)) \wedge (r1_tarski X1 (k4_waybel_0 X0 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_orders_2 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 X0)))) \Rightarrow (m1_subset_1 (k3_waybel_0 X0 X1) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l1_orders_2 X0) \Rightarrow (\forall X1. \forall X2. (m1_subset_1 \\ & X2 (u1_struct_0 X0)) \Rightarrow ((r2_lattice3 X0 X1 X2) \Leftrightarrow (\forall X3. (m1_subset_1 \\ & X3 (u1_struct_0 X0)) \Rightarrow ((X3 \in X1) \Rightarrow (r1_orders_2 X0 X3 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(l1_orders_2 X0) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow ((X2 = k3_waybel_0 X0 X1) \Leftrightarrow (\forall X3.(m1_subset_1 \\
& \quad X3 (u1_struct_0 X0) \Rightarrow ((X3 \in X2) \Leftrightarrow (\exists X4.(m1_subset_1 X4 (u1_struct_0 \\
& \quad X0)) \wedge ((r1_orders_2 X0 X3 X4) \wedge (X4 \in X1)))))))
\end{aligned} \tag{6}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v3_orders_2 X0) \wedge ((v4_orders_2 \\
& \quad X0) \wedge (l1_orders_2 X0)))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 \\
& \quad (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 X2 (u1_struct_0 \\
& \quad X0) \Rightarrow ((r2_lattice3 X0 X1 X2) \Leftrightarrow (r2_lattice3 X0 (k3_waybel_0 X0 X1) \\
& \quad X2))))
\end{aligned}$$