

t15_waybel_9
(TMWFwJ7ZiqehhjSRs82Lwqgyer67EBJzTVF)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $v3_orders_2 : \iota \Rightarrow o$ be given. Let $l1_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_waybel_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_waybel_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $r1_orders_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_orders_2 : \iota \Rightarrow \iota$ be given. Let $k1_toler_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_relat_1 X2) \wedge (v1_funct_1 X2)) \Rightarrow ((X0 \in X1) \Rightarrow (k1_funct_1 (k5_relat_1 X2 X1) X0 = k1_funct_1 X2 X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1_xboole_0 X0) \wedge (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 X1 X2 X3 = k1_funct_1 X2 X3) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow (k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \wedge (((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge (l1_waybel_0 X1 X0))) \wedge (m1_subset_1 X2 (u1_struct_0 X1)))) \Rightarrow ((\neg v2_struct_0 (k4_waybel_9 X0 X1 X2)) \wedge ((v3_orders_2 (k4_waybel_9 X0 X1 X2)) \wedge (v6_waybel_0 (k4_waybel_9 X0 X1 X2) X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((l1_struct_0 X0) \wedge (l1_waybel_0 X1 X0)) \Rightarrow \\ & ((v1_funct_1 (u1_waybel_0 X0 X1)) \wedge ((v1_funct_2 (u1_waybel_0 X0 X1) (u1_struct_0 X1) (u1_struct_0 X0)) \wedge (m1_subset_1 (u1_waybel_0 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (l1_struct_0 X0) \Rightarrow (\forall X1. (l1_waybel_0 X1 X0) \Rightarrow (l1_orders_2 X1)) \quad (8)$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \wedge (((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \wedge (m1_subset_1 X2 (u1_struct_0 X1)))) \Rightarrow ((v6_waybel_0 (k4_waybel_9 X0 X1 X2) X0) \wedge (l1_waybel_0 (k4_waybel_9 X0 X1 X2) X0)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (k2_waybel_0 X0 X1 X2 = k3_funct_2 (u1_struct_0 X1) (u1_struct_0 X0) (u1_waybel_0 X0 X1) X2))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge (l1_waybel_0 X1 X0)) \Rightarrow (\forall X2.(m1_subset_1 \\
& X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.((v6_waybel_0 X3 X0) \wedge (l1_waybel_0 \\
& X3 X0)) \Rightarrow ((X3 = k4_waybel_9 X0 X1 X2) \Leftrightarrow ((\forall X4.(X4 \in u1_struct_0 \\
& X3) \Leftrightarrow (\exists X5.(m1_subset_1 X5 (u1_struct_0 X1)) \wedge ((X5 = X4) \wedge \\
& (r1_orders_2 X1 X2 X5)))))) \wedge ((r2_relset_1 (u1_struct_0 X3) (u1_struct_0 \\
& X3) (u1_orders_2 X3) (k1_toler_1 (u1_orders_2 X1) (u1_struct_0 \\
& X3))) \wedge (u1_waybel_0 X0 X3 = k2_partfun1 (u1_struct_0 X1) (u1_struct_0 \\
& X0) (u1_waybel_0 X0 X1) (u1_struct_0 X3))))))
\end{aligned} \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \tag{13}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\forall X1. \\
& ((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge (l1_waybel_0 X1 X0))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 X1)) \Rightarrow (\forall X3.(m1_subset_1 \\
& X3 (u1_struct_0 X1)) \Rightarrow (\forall X4.(m1_subset_1 X4 (u1_struct_0 \\
& (k4_waybel_9 X0 X1 X2))) \Rightarrow ((X3 = X4) \Rightarrow (k2_waybel_0 X0 X1 X3 = k2_waybel_0 \\
& X0 (k4_waybel_9 X0 X1 X2) X4))))))
\end{aligned}$$