

t39_waybel27

(TMW1QKeHyUkehEQVkfmkJka4FK6dBR28N6r)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. 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 $v5_orders_2 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k6_yellow_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v22_waybel_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_funct_6 : \iota \Rightarrow \iota$ be given. Let $k2_waybel27 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $v4_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_yellow_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. ((\neg v2_struct_0 X1) \wedge \\
 & ((v3_orders_2 X1) \wedge (v4_orders_2 X1) \wedge (v5_orders_2 X1) \wedge (l1_orders_2 \\
 & X1)))) \Rightarrow (\forall X2. ((\neg v2_struct_0 X2) \wedge ((v3_orders_2 X2) \wedge (\\
 & (v4_orders_2 X2) \wedge (v5_orders_2 X2) \wedge (l1_orders_2 X2)))) \Rightarrow (\forall X3. \\
 & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\
 & (k6_yellow_1 X0 X2))) \wedge ((v22_waybel_0 X3 X1 (k6_yellow_1 X0 X2)) \wedge \\
 & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\
 & (k6_yellow_1 X0 X2)))))) \Rightarrow (\forall X4. (m1_subset_1 X4 X0) \Rightarrow (\\
 & (v1_funct_1 (k1_funct_1 (k10_funct_6 X3) X4)) \wedge ((v1_funct_2 (\\
 & k1_funct_1 (k10_funct_6 X3) X4) (u1_struct_0 X1) (u1_struct_0 \\
 & X2)) \wedge ((v22_waybel_0 (k1_funct_1 (k10_funct_6 X3) X4) X1 X2) \wedge (\\
 & m1_subset_1 (k1_funct_1 (k10_funct_6 X3) X4) (k1_zfmisc_1 (k2_zfmisc_1 \\
 & (u1_struct_0 X1) (u1_struct_0 X2))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v1_funct_1 X1)) \Rightarrow ((r1_tarski \\
 & (k10_xtuple_0 X1) X0) \Rightarrow ((v1_funct_1 X1) \wedge ((v1_funct_2 X1 (k9_xtuple_0 \\
 & X1) X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\
 & X1) X0))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge (l1_orders_2 \\ & X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v3_orders_2 X2) \wedge (\\ & (v4_orders_2 X2) \wedge ((v5_orders_2 X2) \wedge (l1_orders_2 X2)))))) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\ & (k6_yellow_1 X0 X2))) \wedge ((v22_waybel_0 X3 X1 (k6_yellow_1 X0 X2)) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & (k6_yellow_1 X0 X2)))))) \Rightarrow ((X3 \in k9_funct_2 (u1_struct_0 X1) \\ & (k9_funct_2 X0 (u1_struct_0 X2))) \wedge ((r1_tarski (k10_xtuple_0 \\ & (k10_funct_6 X3)) (k9_funct_2 (u1_struct_0 X1) (u1_struct_0 X2))) \wedge \\ & (k9_xtuple_0 (k10_funct_6 X3) = X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge \\ & ((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge (l1_orders_2 \\ & X1)))))) \Rightarrow ((v1_orders_2 (k2_waybel27 X0 X1)) \wedge (l1_orders_2 (k2_waybel27 \\ & X0 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v1_relat_1 (\\ & k10_funct_6 X0)) \wedge ((v1_funct_1 (k10_funct_6 X0)) \wedge (v1_funcop_1 \\ & (k10_funct_6 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2_struct_0 X1) \wedge ((v3_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge (l1_orders_2 \\ & X1)))) \Rightarrow (\forall X2.((v1_orders_2 X2) \wedge (l1_orders_2 X2)) \Rightarrow ((X2 = \\ & k2_waybel27 X0 X1) \Leftrightarrow (((v4_yellow_0 X2 (k6_yellow_1 (u1_struct_0 \\ & X0) X1)) \wedge (m1_yellow_0 X2 (k6_yellow_1 (u1_struct_0 X0) X1))) \wedge \\ & (\forall X3.(X3 \in u1_struct_0 X2) \Leftrightarrow ((v1_funct_1 X3) \wedge ((v1_funct_2 \\ & X3 (u1_struct_0 X0) (u1_struct_0 X1)) \wedge ((v22_waybel_0 X3 X0 X1) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X0) (u1_struct_0 \\ & X1)))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 X0) \wedge (X2 = k1_funct_1 X0 X3)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.((\neg v2_struct_0 X1) \wedge \\ & ((v3_orders_2 X1) \wedge ((v4_orders_2 X1) \wedge ((v5_orders_2 X1) \wedge (l1_orders_2 \\ & X1)))))) \Rightarrow (\forall X2.((\neg v2_struct_0 X2) \wedge ((v3_orders_2 X2) \wedge (\\ & (v4_orders_2 X2) \wedge ((v5_orders_2 X2) \wedge (l1_orders_2 X2)))))) \Rightarrow (\forall X3. \\ & ((v1_funct_1 X3) \wedge ((v1_funct_2 X3 (u1_struct_0 X1) (u1_struct_0 \\ & (k6_yellow_1 X0 X2))) \wedge ((v22_waybel_0 X3 X1 (k6_yellow_1 X0 X2)) \wedge \\ & (m1_subset_1 X3 (k1_zfmisc_1 (k2_zfmisc_1 (u1_struct_0 X1) (u1_struct_0 \\ & (k6_yellow_1 X0 X2)))))) \Rightarrow ((v1_funct_1 (k10_funct_6 X3)) \wedge \\ & (v1_funct_2 (k10_funct_6 X3) X0 (u1_struct_0 (k2_waybel27 X1 X2))) \wedge \\ & (m1_subset_1 (k10_funct_6 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 (u1_struct_0 \\ & (k2_waybel27 X1 X2)))))))))) \end{aligned}$$