

t13_waybel_5 (TM- SxGzUZxNhsCrxWK39TFhFvpmGZF7eNTR9)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_orders_2 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funcop_1 : \iota \Rightarrow o$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k4_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k4_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1_subset_1 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee (X0 \in X1)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v4_relat_1 X1 X0)) \Rightarrow (k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (5)$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \quad (6)$$

Assume the following.

$$v1_xboole_0 \ k1_xboole_0 \quad (7)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 \ X0) \wedge (l1_orders_2 \ X0)) \wedge \\ & ((v1_relat_1 \ X1) \wedge ((v1_funct_1 \ X1) \wedge (v1_funcop_1 \ X1)))) \Rightarrow ((v1_funct_1 \\ & (k5_waybel_5 \ X0 \ X1)) \wedge ((v1_funct_2 \ (k5_waybel_5 \ X0 \ X1) \ (k9_xtuple_0 \\ & X1) \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ (k5_waybel_5 \ X0 \ X1) \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k9_xtuple_0 \ X1) \ (u1_struct_0 \ X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((\neg v2_struct_0 \ X0) \wedge (l1_orders_2 \ X0)) \wedge \\ & ((v1_relat_1 \ X1) \wedge ((v1_funct_1 \ X1) \wedge (v1_funcop_1 \ X1)))) \Rightarrow ((v1_funct_1 \\ & (k4_waybel_5 \ X0 \ X1)) \wedge ((v1_funct_2 \ (k4_waybel_5 \ X0 \ X1) \ (k9_xtuple_0 \\ & X1) \ (u1_struct_0 \ X0)) \wedge (m1_subset_1 \ (k4_waybel_5 \ X0 \ X1) \ (k1_zfmisc_1 \\ & (k2_zfmisc_1 \ (k9_xtuple_0 \ X1) \ (u1_struct_0 \ X0)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 \ X1) \wedge (v4_relat_1 \ X1 \ X0)) \Rightarrow (m1_subset_1 \ (k1_relset_1 \ X0 \ X1) \ (k1_zfmisc_1 \ X0)) \quad (11)$$

Assume the following.

$$\forall X0.((v1_relat_1 \ X0) \wedge (v1_funct_1 \ X0)) \Rightarrow (\forall X1.(X1 = k10_xtuple_0 \ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (\exists X3.(X3 \in k9_xtuple_0 \ X0) \wedge (X2 = k1_funct_1 \ X0 \ X3)))) \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 \ X0) \wedge (l1_orders_2 \ X0)) \Rightarrow (\forall X1. \\ & ((v1_relat_1 \ X1) \wedge ((v1_funct_1 \ X1) \wedge (v1_funcop_1 \ X1)))) \Rightarrow (\forall X2. \\ & ((v1_funct_1 \ X2) \wedge ((v1_funct_2 \ X2 \ (k9_xtuple_0 \ X1) \ (u1_struct_0 \\ & X0)) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ (k9_xtuple_0 \\ & X1) \ (u1_struct_0 \ X0)))))) \Rightarrow ((X2 = k5_waybel_5 \ X0 \ X1) \Leftrightarrow (\forall X3. \\ & (X3 \in k9_xtuple_0 \ X1) \Rightarrow (k1_funct_1 \ X2 \ X3 = k5_yellow_2 \ X0 \ (k1_funct_1 \\ & X1 \ X3)))))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k9_xtuple_0 X1) (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\
& X1) (u1_struct_0 X0)))))) \Rightarrow ((X2 = k4_waybel_5 X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X2 X3 = k4_yellow_2 X0 (k1_funct_1 \\
& X1 X3))))))
\end{aligned} \tag{14}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow (((X1 \neq k1_xboole_0) \Rightarrow ((v1_funct_2 X2 X0 \\
& X1) \Leftrightarrow (X0 = k1_relset_1 X0 X2))) \wedge ((X1 = k1_xboole_0) \Rightarrow ((v1_funct_2 \\
& X2 X0 X1) \Leftrightarrow (X2 = k1_xboole_0))))
\end{aligned} \tag{15}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1))
\end{aligned} \tag{16}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 \\
& X0)) \Rightarrow (v1_xboole_0 X1))
\end{aligned} \tag{17}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\
& (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2)
\end{aligned} \tag{18}$$

Theorem 1

$$\begin{aligned}
& \forall X0. \forall X1. ((\neg v2_struct_0 X1) \wedge (l1_orders_2 X1)) \Rightarrow \\
& (\forall X2. ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_funcop_1 \\
& X2))) \Rightarrow ((\neg (X0 \in k2_relset_1 (u1_struct_0 X1) (k4_waybel_5 X1 X2))) \wedge \\
& (\forall X3. \neg (X3 \in k9_xtuple_0 X2) \wedge (X0 = k4_yellow_2 X1 (k1_funct_1 \\
& X2 X3)))) \wedge ((\exists X3. (X3 \in k9_xtuple_0 X2) \wedge (X0 = k4_yellow_2 \\
& X1 (k1_funct_1 X2 X3))) \Rightarrow (X0 \in k2_relset_1 (u1_struct_0 X1) (k4_waybel_5 \\
& X1 X2))) \wedge ((\neg (X0 \in k2_relset_1 (u1_struct_0 X1) (k5_waybel_5 X1 \\
& X2)) \wedge (\forall X3. \neg (X3 \in k9_xtuple_0 X2) \wedge (X0 = k5_yellow_2 X1 (k1_funct_1 \\
& X2 X3)))) \wedge ((\exists X3. (X3 \in k9_xtuple_0 X2) \wedge (X0 = k5_yellow_2 \\
& X1 (k1_funct_1 X2 X3))) \Rightarrow (X0 \in k2_relset_1 (u1_struct_0 X1) (k5_waybel_5 \\
& X1 X2))))))
\end{aligned}$$