

t12_waybel_5 (TMU- GAh1ZPBF6Y69WhsAdjAYfiQbiqmALWfa)

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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 $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k5_yellow_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k5_waybel_5 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1_xboole_0 X1) \wedge (\neg v1_xboole_0 X3) \wedge ((v1_funct_1 X4) \wedge ((v1_funct_2 X4 X0 X1) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \wedge ((v1_funct_1 X5) \wedge ((v1_funct_2 X5 X2 X3) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 X2 X3)))))) \Rightarrow ((r1_funct_2 X0 X1 X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. ((\neg v2_struct_0 X0) \wedge (l1_struct_0 X0)) \Rightarrow (\neg v1_xboole_0 (u1_struct_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l1_orders_2 X0) \Rightarrow (l1_struct_0 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1)))) \Rightarrow ((v1_funct_1 (k5_waybel_5 X0 X1) \wedge ((v1_funct_2 (k5_waybel_5 X0 X1) (k9_xtuple_0 X1) (u1_struct_0 X0)) \wedge (m1_subset_1 (k5_waybel_5 X0 X1) (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 X1) (u1_struct_0 X0)))))) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k9_xtuple_0 X1) (u1_struct_0 \\
& X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k9_xtuple_0 \\
& X1) (u1_struct_0 X0)))))) \Rightarrow ((X2 = k5_waybel_5 X0 X1) \Leftrightarrow (\forall X3. \\
& (X3 \in k9_xtuple_0 X1) \Rightarrow (k1_funct_1 X2 X3 = k5_yellow_2 X0 (k1_funct_1 \\
& X1 X3))))))
\end{aligned} \tag{5}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge (l1_orders_2 X0)) \Rightarrow (\forall X1. \\
& ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge (v1_funcop_1 X1))) \Rightarrow (\forall X2. \\
& ((v1_relat_1 X2) \wedge ((v1_funct_1 X2) \wedge (v1_funcop_1 X2))) \Rightarrow (((k9_xtuple_0 \\
& X1 = k9_xtuple_0 X2) \wedge (\forall X3. (X3 \in k9_xtuple_0 X1) \Rightarrow (k5_yellow_2 \\
& X0 (k1_funct_1 X1 X3) = k5_yellow_2 X0 (k1_funct_1 X2 X3)))) \Rightarrow (r1_funct_2 \\
& (k9_xtuple_0 X1) (u1_struct_0 X0) (k9_xtuple_0 X2) (u1_struct_0 \\
& X0) (k5_waybel_5 X0 X1) (k5_waybel_5 X0 X2))))))
\end{aligned}$$