

t98_glib_000 (TMN-
pcnQ8mMRgrV9cxEEERwv5xWQ3SXbCwa8)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finset_1 : \iota \Rightarrow o$ be given. Let $v1_glib_000 : \iota \Rightarrow o$ be given. Let $m1_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r7_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_xboole_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r5_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r6_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_glib_000 : \iota \Rightarrow \iota$ be given. Let $k11_glib_000 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m1_glib_000 \\ X1 X0) \Rightarrow (\forall X2.(m1_glib_000 X2 X0) \Rightarrow (((k24_glib_000 X0 X1 = \\ k24_glib_000 X0 X2) \wedge (k25_glib_000 X0 X1 = k25_glib_000 X0 X2)) \Rightarrow \\ (r5_glib_000 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m1_glib_000 \\ X1 X0)) \Rightarrow (k25_glib_000 X0 X1 = k7_glib_000 X1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m1_glib_000 \\ X1 X0)) \Rightarrow (k24_glib_000 X0 X1 = k6_glib_000 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m1_glib_000 \\ X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 \\ X1) \wedge ((v1_finset_1 X1) \wedge (v1_glib_000 X1)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r2_xboole_0 X0 X1)\Leftrightarrow((r1_tarski X0 X1)\wedge (X0\neq X1)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 \\ X0)\wedge((v1_finset_1 X0)\wedge(v1_glib_000 X0))))\Rightarrow(\forall X1.((v1_relat_1 \\ X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v1_funct_1 X1)\wedge((v1_finset_1 \\ X1)\wedge(v1_glib_000 X1))))\Rightarrow((r7_glib_000 X0 X1)\Leftrightarrow((r6_glib_000 \\ X0 X1)\wedge(\neg r5_glib_000 X0 X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 \\ X0)\wedge((v1_finset_1 X0)\wedge(v1_glib_000 X0))))\Rightarrow(\forall X1.((v1_relat_1 \\ X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v1_funct_1 X1)\wedge((v1_finset_1 \\ X1)\wedge(v1_glib_000 X1))))\Rightarrow((r6_glib_000 X0 X1)\Leftrightarrow(m1_glib_000 \\ X0 X1))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 \\ X0)\wedge((v1_finset_1 X0)\wedge(v1_glib_000 X0))))\Rightarrow(\forall X1.((v1_relat_1 \\ X1)\wedge((v4_relat_1 X1 k5_numbers)\wedge((v1_funct_1 X1)\wedge((v1_finset_1 \\ X1)\wedge(v1_glib_000 X1))))\Rightarrow((m1_glib_000 X1 X0)\Leftrightarrow((r1_tarski (\\ k6_glib_000 X1) (k6_glib_000 X0))\wedge((r1_tarski (k7_glib_000 X1) \\ (k7_glib_000 X0))\wedge(\forall X2.(X2 \in k7_glib_000 X1)\Rightarrow((k1_funct_1 \\ (k10_glib_000 X1) X2 = k1_funct_1 (k10_glib_000 X0) X2)\wedge(k1_funct_1 \\ (k11_glib_000 X1) X2 = k1_funct_1 (k11_glib_000 X0) X2)))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0)\wedge((v4_relat_1 X0 k5_numbers)\wedge((v1_funct_1 \\ X0)\wedge((v1_finset_1 X0)\wedge(v1_glib_000 X0))))\Rightarrow(\forall X1.(m1_glib_000 \\ X1 X0)\Rightarrow(\forall X2.(m1_glib_000 X2 X0)\Rightarrow(\neg(r7_glib_000 X1 X2)\wedge \\ ((\neg r2_xboole_0 (k24_glib_000 X0 X1) (k24_glib_000 X0 X2))\wedge(\neg r2_xboole_0 \\ (k25_glib_000 X0 X1) (k25_glib_000 X0 X2)))))) \end{aligned}$$