

t72_glib_000

(TMQPW1wgKehjGsuEAVJUd96Ju74yMmpeh5j)

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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 $r1_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r4_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ 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.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. \forall X4. \forall X5. \neg (r1_glib_000 X0 X2 X3 X1) \wedge ((\\ r1_glib_000 X0 X4 X5 X1) \wedge (\neg (X2 = X4) \wedge (X3 = X5)) \wedge (\neg (X2 = X5) \wedge (X3 = \\ X4)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r1_glib_000 X0 X2 X3 X1) \Rightarrow ((X2 \in k6_glib_000 X0) \wedge (X3 \in \\ k6_glib_000 X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m1_glib_000 \\ X1 X0) \Rightarrow (\forall X2. \forall X3. \forall X4. (r1_glib_000 X1 X2 X3 \\ X4) \Rightarrow (r1_glib_000 X0 X2 X3 X4))) \end{aligned} \tag{3}$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r1_glib_000 X0 X2 X3 X1) \Leftrightarrow ((r2_glib_000 X0 X2 X3 X1) \vee \\ (r2_glib_000 X0 X3 X2 X1))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m1_glib_000 \\ X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 \\ X1) \wedge ((v1_finset_1 X1) \wedge (v1_glib_000 X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. ((v1_relat_1 \\ X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ X1) \wedge (v1_glib_000 X1)))))) \Rightarrow ((m1_glib_000 X1 X0) \Leftrightarrow ((r1_tarski (\\ k6_glib_000 X1) (k6_glib_000 X0)) \wedge ((r1_tarski (k7_glib_000 X1) \\ (k7_glib_000 X0)) \wedge (\forall X2. (X2 \in k7_glib_000 X1) \Rightarrow ((k1_funct_1 \\ (k10_glib_000 X1) X2 = k1_funct_1 (k10_glib_000 X0) X2) \wedge (k1_funct_1 \\ (k11_glib_000 X1) X2 = k1_funct_1 (k11_glib_000 X0) X2)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r4_glib_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7_glib_000 X0) \wedge ((k1_funct_1 \\ (k10_glib_000 X0) X3 \in X1) \wedge (k1_funct_1 (k11_glib_000 X0) X3 \in X2)))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r3_glib_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7_glib_000 X0) \wedge (((\\ k1_funct_1 (k10_glib_000 X0) X3 \in X1) \wedge (k1_funct_1 (k11_glib_000 \\ X0) X3 \in X2)) \vee ((k1_funct_1 (k10_glib_000 X0) X3 \in X2) \wedge (k1_funct_1 \\ (k11_glib_000 X0) X3 \in X1)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r2_glib_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7_glib_000 X0) \wedge ((k1_funct_1 \\ (k10_glib_000 X0) X3 = X1) \wedge (k1_funct_1 (k11_glib_000 X0) X3 = X2)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 \\
& \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\
& \quad \forall X3. (r1_glib_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7_glib_000 X0) \wedge ((\\
& \quad k1_funct_1 (k10_glib_000 X0) X3 = X1) \wedge (k1_funct_1 (k11_glib_000 \\
& \quad X0) X3 = X2)) \vee ((k1_funct_1 (k10_glib_000 X0) X3 = X2) \wedge (k1_funct_1 \\
& \quad (k11_glib_000 X0) X3 = X1))))))
\end{aligned} \tag{11}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 \\
& \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m1_glib_000 \\
& \quad X1 X0) \Rightarrow (\forall X2. \forall X3. \forall X4. ((r1_glib_000 X1 X2 X3 \\
& \quad X4) \Rightarrow (r1_glib_000 X0 X2 X3 X4)) \wedge (((r2_glib_000 X1 X2 X3 X4) \Rightarrow (r2_glib_000 \\
& \quad X0 X2 X3 X4)) \wedge (((r3_glib_000 X1 X2 X3 X4) \Rightarrow (r3_glib_000 X0 X2 X3 X4)) \wedge \\
& \quad ((r4_glib_000 X1 X2 X3 X4) \Rightarrow (r4_glib_000 X0 X2 X3 X4))))))
\end{aligned}$$