

## t13\_glib\_004

(TMX3BYLgrZcpHPcCeBSVXUgzY3ywJx5sxjK)

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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  $v2\_glib\_000 : \iota \Rightarrow o$  be given. Let  $v1\_glib\_003 : \iota \Rightarrow o$  be given. Let  $v7\_glib\_003 : \iota \Rightarrow o$  be given. Let  $v2\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_glib\_004 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_glib\_003 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $r1\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_glib\_004 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge ((v1\_glib\_003 \\ & X0) \wedge (v7\_glib\_003 X0)))))) \wedge (m3\_glib\_001 X1 X0)) \Rightarrow (m1\_subset\_1 \\ & (k10\_glib\_003 X0 X1) k1\_numbers) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge ((v2\_glib\_000 X0) \wedge \\ & ((v1\_glib\_003 X0) \wedge (v7\_glib\_003 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3. (m1\_subset\_1 X3 k1\_numbers) \Rightarrow (((\exists X4. ((v2\_glib\_001 \\ & X4 X0) \wedge (m3\_glib\_001 X4 X0)) \wedge (r1\_glib\_001 X0 X1 X2 X4)) \Rightarrow ((X3 = k1\_glib\_004 \\ & X0 X1 X2) \Leftrightarrow (\exists X4. ((v2\_glib\_001 X4 X0) \wedge ((v5\_glib\_001 X4 X0) \wedge \\ & (m3\_glib\_001 X4 X0))) \wedge ((r2\_glib\_004 X0 X4 X1 X2) \wedge (X3 = k10\_glib\_003 \\ & X0 X4)))) \wedge ((\forall X4. ((v2\_glib\_001 X4 X0) \wedge (m3\_glib\_001 X4 \\ & X0)) \Rightarrow (\neg r1\_glib\_001 X0 X1 X2 X4)) \Rightarrow ((X3 = k1\_glib\_004 X0 X1 X2) \Leftrightarrow (X3 = \\ & k6\_numbers)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\
& \quad X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge ((v1\_glib\_003 X0) \wedge \\
& \quad (v7\_glib\_003 X0)))))) \Rightarrow (\forall X1.((v2\_glib\_001 X1 X0) \wedge ((v5\_glib\_001 \\
& \quad X1 X0) \wedge (m3\_glib\_001 X1 X0))) \Rightarrow (\forall X2. \forall X3. (r2\_glib\_004 \\
& \quad X0 X1 X2 X3) \Leftrightarrow ((r1\_glib\_001 X0 X2 X3 X1) \wedge (\forall X4. ((v2\_glib\_001 \\
& \quad X4 X0) \wedge ((v5\_glib\_001 X4 X0) \wedge (m3\_glib\_001 X4 X0)))) \Rightarrow ((r1\_glib\_001 \\
& \quad X0 X2 X3 X4) \Rightarrow (r1\_xxreal\_0 (k10\_glib\_003 X0 X1) (k10\_glib\_003 X0 \\
& \quad X4))))))
\end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\
& \quad X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge ((v2\_glib\_000 X0) \wedge \\
& \quad ((v1\_glib\_003 X0) \wedge (v7\_glib\_003 X0)))))) \Rightarrow (\forall X1.((v2\_glib\_001 \\
& \quad X1 X0) \wedge ((v5\_glib\_001 X1 X0) \wedge (m3\_glib\_001 X1 X0))) \Rightarrow (\forall X2. \\
& ((v2\_glib\_001 X2 X0) \wedge ((v5\_glib\_001 X2 X0) \wedge (m3\_glib\_001 X2 X0))) \Rightarrow \\
& \quad (\forall X3. \forall X4. ((r2\_glib\_004 X0 X1 X3 X4) \wedge (r2\_glib\_004 \\
& \quad X0 X2 X3 X4)) \Rightarrow (k10\_glib\_003 X0 X1 = k10\_glib\_003 X0 X2)))
\end{aligned}$$