

t9\_glib\_003  
(TMSDcbJopYZbdaz3nLm7hnZQxzw8ejhaeXA)

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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  $v1\_glib\_003 : \iota \Rightarrow o$  be given. Let  $v4\_glib\_003 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_glib\_000 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k25\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k5\_glib\_003 : \iota \Rightarrow \iota$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow ((r1\_tarski X0 X1) \Rightarrow (k5\_relat\_1 (k5\_relat\_1 X2 X1) X0 = k5\_relat\_1 X2 X0)) \quad (1)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0))))) \Rightarrow (\forall X1. (m1\_glib\_000 X1 X0) \Rightarrow (\forall X2. (m1\_glib\_000 X2 X1) \Rightarrow (m1\_glib\_000 X2 X0))) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0))))) \wedge (m1\_glib\_000 X1 X0)) \Rightarrow (k25\_glib\_000 X0 X1 = k7\_glib\_000 X1) \quad (4)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0))))) \Rightarrow (\forall X1. (m1\_glib\_000 X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_glib\_000 X1))))) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v1\_glib\_003 X0)))))) \Rightarrow \\ ((v1\_relat\_1 (k5\_glib\_003 X0)) \wedge ((v4\_relat\_1 (k5\_glib\_003 X0) \\ (k7\_glib\_000 X0)) \wedge ((v1\_funct\_1 (k5\_glib\_003 X0)) \wedge (v1\_partfun1 \\ (k5\_glib\_003 X0) (k7\_glib\_000 X0)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge \\ ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \wedge (m1\_glib\_000 \\ X1 X0)) \Rightarrow (m1\_subset\_1 (k25\_glib\_000 X0 X1) (k1\_zfmisc\_1 (k7\_glib\_000 \\ X0))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v1\_glib\_003 X0)))))) \Rightarrow \\ (\forall X1. ((v1\_glib\_003 X1) \wedge (m1\_glib\_000 X1 X0)) \Rightarrow ((v4\_glib\_003 \\ X1 X0) \Leftrightarrow (k5\_glib\_003 X1 = k5\_relat\_1 (k5\_glib\_003 X0) (k25\_glib\_000 \\ X0 X1)))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v1\_glib\_003 X0)))))) \Rightarrow \\ (\forall X1. ((v1\_glib\_003 X1) \wedge ((v4\_glib\_003 X1 X0) \wedge (m1\_glib\_000 \\ X1 X0))) \Rightarrow (\forall X2. ((v1\_glib\_003 X2) \wedge ((v4\_glib\_003 X2 X1) \wedge \\ (m1\_glib\_000 X2 X1))) \Rightarrow ((v1\_glib\_003 X2) \wedge ((v4\_glib\_003 X2 X0) \wedge \\ (m1\_glib\_000 X2 X0)))))) \end{aligned}$$