

## t47\_glib\_003

(TMXiyXgfWjvoM1dFjf5za98ydSxZkmDHkh1)

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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  $v1\_glib\_000 : \iota \Rightarrow o$  be given. Let  $v2\_glib\_000 : \iota \Rightarrow o$  be given. Let  $v2\_glib\_003 : \iota \Rightarrow o$  be given. Let  $k7\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k11\_glib\_003 : \iota \Rightarrow \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $k12\_glib\_003 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v2\_glib\_003 X0)))))) \Rightarrow \\ (\forall X1. \forall X2. (X1 \in k7\_glib\_000 X0) \Rightarrow (k11\_glib\_003 (k12\_glib\_003 \\ X0 X1 X2) = k2\_xboole\_0 (k11\_glib\_003 X0) (k1\_tarski X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1\_finset\_1 X1) \Rightarrow ((\neg X0 \in X1) \Rightarrow (k5\_card\_1 \\ (k2\_xboole\_0 X1 (k1\_tarski X0)) = k2\_nat\_1 (k5\_card\_1 X1) np\_1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v2\_glib\_003 X0)))))) \Rightarrow \\ (m1\_subset\_1 (k11\_glib\_003 X0) (k1\_zfmisc\_1 (k7\_glib\_000 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow ((v2\_glib\_000 X0) \Leftrightarrow \\ ((v1\_finset\_1 (k6\_glib\_000 X0)) \wedge (v1\_finset\_1 (k7\_glib\_000 X0)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. (v1\_finset\_1 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0)) \Rightarrow (v1\_finset\_1 X1)) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge ((v2\_glib\_000 X0) \wedge \\ & \quad (v2\_glib\_003 X0)))))) \Rightarrow (\forall X1. \forall X2. (X1 \in k7\_glib\_000 \\ X0) \Rightarrow ((X1 \in k11\_glib\_003 X0) \vee (k5\_card\_1 (k11\_glib\_003 (k12\_glib\_003 \\ X0 X1 X2)) = k2\_nat\_1 (k5\_card\_1 (k11\_glib\_003 X0) \ np\_1))) \end{aligned}$$