

# t6\_glib\_000 (TMPbAPwoQysxoXfP- sNspd4Ps3GKnqZCKBuX)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k12\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $r1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k11\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k7\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_glib\_000 : \iota \Rightarrow o$  be given. Let  $k9\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k8\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k4\_glib\_000 : \iota$  be given. Let  $k3\_glib\_000 : \iota$  be given. Let  $k2\_glib\_000 : \iota$  be given. Let  $k1\_glib\_000 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. ((v1\_relat\_1 \\ & X4) \wedge ((v1\_funct\_1 X4) \wedge (v1\_finseq\_1 X4))) \Rightarrow ((X4 = k7\_finseq\_4 X0 \\ & X1 X2 X3) \Leftrightarrow ((k3\_finseq\_1 X4 = np\_4) \wedge ((k1\_funct\_1 X4 np\_1 = X0) \wedge \\ & ((k1\_funct\_1 X4 np\_2 = X1) \wedge ((k1\_funct\_1 X4 np\_3 = X2) \wedge (k1\_funct\_1 \\ & X4 np\_4 = X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & ((\neg v1\_xboole\_0 X1) \wedge (\neg v1\_xboole\_0 X3) \wedge (((v1\_funct\_1 X4) \wedge (( \\ & v1\_funct\_2 X4 X0 X1) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))))) \wedge ((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 X5 X2 X3) \wedge (m1\_subset\_1 \\ & X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X2 X3)))))) \Rightarrow ((r1\_funct\_2 X0 X1 \\ & X2 X3 X4 X5) \Leftrightarrow (X4 = X5)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))) \Rightarrow (k11\_glib\_000 X0 = \\ & k9\_glib\_000 X0) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (k10\_glib\_000 X0 = k8\_glib\_000 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. v1\_finseq\_1 (k7\_finseq\_4 X0 X1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. (v1\_relat\_1 (k7\_finseq\_4 X0 X1 X2 X3)) \wedge ((v1\_funct\_1 (k7\_finseq\_4 X0 X1 X2 X3)) \wedge (\neg v1\_xboole\_0 (k7\_finseq\_4 X0 X1 X2 X3))) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge (((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 X2 X1 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \wedge ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X1 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \Rightarrow ((v1\_relat\_1 (k12\_glib\_000 X0 X1 X2 X3)) \wedge ((v4\_relat\_1 (k12\_glib\_000 X0 X1 X2 X3) k5\_numbers) \wedge ((v1\_funct\_1 (k12\_glib\_000 X0 X1 X2 X3)) \wedge ((v1\_finset\_1 (k12\_glib\_000 X0 X1 X2 X3)) \wedge (v1\_glib\_000 (k12\_glib\_000 X0 X1 X2 X3)))))) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k9\_glib\_000 X0 = k1\_funct\_1 X0 k4\_glib\_000) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k8\_glib\_000 X0 = k1\_funct\_1 X0 k3\_glib\_000) \quad (9)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k7\_glib\_000 X0 = k1\_funct\_1 X0 k2\_glib\_000) \quad (10)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finset\_1 X0)))) \Rightarrow (k6\_glib\_000 X0 = k1\_funct\_1 X0 k1\_glib\_000) \quad (11)$$

Assume the following.

$$k4\_glib\_000 = np\_4 \quad (12)$$

Assume the following.

$$k3\_glib\_000 = np\_3 \quad (13)$$

Assume the following.

$$k2\_glib\_000 = np\_2 \quad (14)$$

Assume the following.

$$k1\_glib\_000 = np\_1 \quad (15)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. \forall X2. ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 X1 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 X0)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X1 X0) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \Rightarrow (k12\_glib\_000 \\ & X0 X1 X2 X3 = k7\_finseq\_4 X0 X1 X2 X3)) \end{aligned} \quad (16)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. \forall X2. ((v1\_funct\_1 \\ & X2) \wedge ((v1\_funct\_2 X2 X1 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 X0)))))) \Rightarrow (\forall X3. ((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 X1 X0) \wedge \\ & (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 X0)))))) \Rightarrow ((k6\_glib\_000 \\ & (k12\_glib\_000 X0 X1 X2 X3) = X0) \wedge ((k7\_glib\_000 (k12\_glib\_000 X0 \\ & X1 X2 X3) = X1) \wedge ((r1\_funct\_2 (k7\_glib\_000 (k12\_glib\_000 X0 X1 X2 \\ & X3)) (k6\_glib\_000 (k12\_glib\_000 X0 X1 X2 X3)) X1 X0 (k10\_glib\_000 \\ & (k12\_glib\_000 X0 X1 X2 X3)) X2) \wedge (r1\_funct\_2 (k7\_glib\_000 (k12\_glib\_000 \\ & X0 X1 X2 X3)) (k6\_glib\_000 (k12\_glib\_000 X0 X1 X2 X3)) X1 X0 (k11\_glib\_000 \\ & (k12\_glib\_000 X0 X1 X2 X3)) X3)))))) \end{aligned}$$