

## l20\_glib\_002

(TMErDb4fXrgtBn6nYsK1MxfBBXAa5WYncZ3)

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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  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $r5\_glib\_000 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_glib\_002 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ & \quad X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\ & \quad X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow (\forall X2. \forall X3. \forall X4. \\ & (m3\_glib\_001 X4 X0) \Rightarrow (\forall X5. (m3\_glib\_001 X5 X1) \Rightarrow ((X4 = X5) \Rightarrow \\ & \quad ((r1\_glib\_001 X0 X2 X3 X4) \Leftrightarrow (r1\_glib\_001 X1 X2 X3 X5)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ & \quad X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\ & \quad X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow (\forall X2. ((r5\_glib\_000 X0 X1) \wedge \\ & \quad (m3\_glib\_001 X2 X0)) \Rightarrow (m3\_glib\_001 X2 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & \quad ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \wedge (( \\ & \quad v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge \\ & \quad ((v1\_finset\_1 X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow ((r5\_glib\_000 X0 X1) \Rightarrow \\ & \quad (r5\_glib\_000 X1 X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \wedge (( \\ & v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge \\ & ((v1\_finset\_1 X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow (r5\_glib\_000 X0 X0) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \wedge (m1\_subset\_1 \\ & X1 (k6\_glib\_000 X0)) \Rightarrow ((\neg v1\_xboole\_0 (k1\_glib\_002 X0 X1)) \wedge (m1\_subset\_1 \\ & (k1\_glib\_002 X0 X1) (k1\_zfmisc\_1 (k6\_glib\_000 X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2. ((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k6\_glib\_000 X0)))))) \Rightarrow ((X2 = k1\_glib\_002 X0 X1) \Leftrightarrow \\ & (\forall X3. (X3 \in X2) \Leftrightarrow (\exists X4. (m3\_glib\_001 X4 X0) \wedge (r1\_glib\_001 \\ & X0 X1 X3 X4)))))) \end{aligned} \quad (7)$$

### Theorem 1

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ & X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\ & X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k6\_glib\_000 \\ & X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k6\_glib\_000 X1)) \Rightarrow (((r5\_glib\_000 \\ & X0 X1) \wedge (X2 = X3)) \Rightarrow (k1\_glib\_002 X0 X2 = k1\_glib\_002 X1 X3)))))) \end{aligned}$$