

t73\_glib\_000

(TMb4EWovaJY9gs6PX5RW7WAKBxxSXdL8Q9B)

October 27, 2020

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  $m1\_glib\_000 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k25\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r4\_glib\_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k11\_glib\_000 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ & ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \wedge (m1\_glib\_000 \\ & X1 X0)) \Rightarrow (k25\_glib\_000 X0 X1 = k7\_glib\_000 X1) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. (m1\_glib\_000 \\ & X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X1) \wedge ((v1\_finset\_1 X1) \wedge (v1\_glib\_000 X1)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ & X1) \wedge ((v4\_relat\_1 X1 k5\_numbers) \wedge ((v1\_funct\_1 X1) \wedge ((v1\_finset\_1 \\ & X1) \wedge (v1\_glib\_000 X1)))))) \Rightarrow ((m1\_glib\_000 X1 X0) \Leftrightarrow ((r1\_tarski ( \\ & k6\_glib\_000 X1) (k6\_glib\_000 X0)) \wedge ((r1\_tarski (k7\_glib\_000 X1) \\ & (k7\_glib\_000 X0)) \wedge (\forall X2. (X2 \in k7\_glib\_000 X1) \Rightarrow ((k1\_funct\_1 \\ & (k10\_glib\_000 X1) X2 = k1\_funct\_1 (k10\_glib\_000 X0) X2) \wedge (k1\_funct\_1 \\ & (k11\_glib\_000 X1) X2 = k1\_funct\_1 (k11\_glib\_000 X0) X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(r4\_glib\_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7\_glib\_000 X0) \wedge ((k1\_funct\_1 \\ & \quad (k10\_glib\_000 X0) X3 \in X1) \wedge (k1\_funct\_1 (k11\_glib\_000 X0) X3 \in X2)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(r3\_glib\_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7\_glib\_000 X0) \wedge ((( \\ & \quad k1\_funct\_1 (k10\_glib\_000 X0) X3 \in X1) \wedge (k1\_funct\_1 (k11\_glib\_000 \\ & \quad X0) X3 \in X2)) \vee ((k1\_funct\_1 (k10\_glib\_000 X0) X3 \in X2) \wedge (k1\_funct\_1 \\ & \quad (k11\_glib\_000 X0) X3 \in X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(r2\_glib\_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7\_glib\_000 X0) \wedge ((k1\_funct\_1 \\ & \quad (k10\_glib\_000 X0) X3 = X1) \wedge (k1\_funct\_1 (k11\_glib\_000 X0) X3 = X2)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \forall X3.(r1\_glib\_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7\_glib\_000 X0) \wedge ((( \\ & \quad k1\_funct\_1 (k10\_glib\_000 X0) X3 = X1) \wedge (k1\_funct\_1 (k11\_glib\_000 \\ & \quad X0) X3 = X2)) \vee ((k1\_funct\_1 (k10\_glib\_000 X0) X3 = X2) \wedge (k1\_funct\_1 \\ & \quad (k11\_glib\_000 X0) X3 = X1)))))) \end{aligned} \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & \quad X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1.(m1\_glib\_000 \\ & \quad X1 X0) \Rightarrow (\forall X2. \forall X3. \forall X4.(X4 \in k25\_glib\_000 X0 \\ & \quad X1) \Rightarrow (((r1\_glib\_000 X0 X2 X3 X4) \Rightarrow (r1\_glib\_000 X1 X2 X3 X4)) \wedge (((r2\_glib\_000 \\ & \quad X0 X2 X3 X4) \Rightarrow (r2\_glib\_000 X1 X2 X3 X4)) \wedge (((r3\_glib\_000 X0 X2 X3 X4) \Rightarrow \\ & \quad (r3\_glib\_000 X1 X2 X3 X4)) \wedge ((r4\_glib\_000 X0 X2 X3 X4) \Rightarrow (r4\_glib\_000 \\ & \quad X1 X2 X3 X4)))))) \end{aligned}$$