

# l1\_glib\_004

(TMWjBXUmxbkTevuwKNphxZSAC9fruL9Sj6)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. k16\_funcop\_1 X0 X1 = k1\_tarski (k4\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 (k16\_funcop\_1 X0 X1)) \wedge (v1\_funct\_1 (k16\_funcop\_1 X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow ((v1\_relat\_1 (k1\_funct\_4 X0 X1)) \wedge (v1\_funct\_1 (k1\_funct\_4 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. k16\_funcop\_1 X0 X1 = k7\_funcop\_1 (k1\_tarski X0) X1 \quad (6)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\
& \quad v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge \\
(v1\_funct\_1 X2)) \Rightarrow ((X2 = k1\_funct\_4 X0 X1) \Leftrightarrow ((k9\_xtuple\_0 X2 = k2\_xboole\_0 \\
& \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (\forall X3.(X3 \in k2\_xboole\_0 \\
& \quad (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \Rightarrow ((X3 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 \\
& \quad X2 X3 = k1\_funct\_1 X1 X3)) \wedge ((\neg X3 \in k9\_xtuple\_0 X1) \Rightarrow (k1\_funct\_1 X2 \\
& \quad X3 = k1\_funct\_1 X0 X3))))))))) \\
& \tag{7}
\end{aligned}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. \\
& k9\_xtuple\_0 (k1\_funct\_4 X0 (k16\_funcop\_1 X1 X2)) = k2\_xboole\_0 \\
& \quad (k9\_xtuple\_0 X0) (k1\_tarSKI X1))
\end{aligned}$$