

t57\_lexbfs  
(TMNSU4icsvCebdq9ibhDJfdF886tUh2kG3j)

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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  $v2\_glib\_000 : \iota \Rightarrow o$  be given. Let  $k1\_recdef\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_lexbfs : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rfunct\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $k18\_lexbfs : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k8\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1\_funct\_1 (k2\_funcop\_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (2)$$

Assume the following.

$$m1\_subset\_1 k1\_xboole\_0 k4\_ordinal1 \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0 X0)\wedge ((\neg v1\_xboole\_0 X1)\wedge(m1\_subset\_1 X3 (k2\_zfmisc\_1 X0 (k9\_funct\_2 X2 X1))))))\Rightarrow(k8\_lexbfs X0 X1 X2 X3 = k2\_xtuple\_0 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X2 X0))\Rightarrow(k8\_funcop\_1 X0 X1 X2 = k2\_funcop\_1 X1 X2) \quad (6)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (7)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.k3\_rfunct\_3 X0 X1 = k4\_partfun1 X0 X1 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v4\_valued\_0 X0)))\Rightarrow(k1\_recdef\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2\_xtuple\_0 (k4\_tarski X0 X1) = X1 \quad (11)$$

Assume the following.

$$\forall X0.\exists X1.(v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1)\wedge(v5\_ordinal1 X1))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\exists X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\wedge((v1\_xboole\_0 X2)\wedge((v1\_relat\_1 X2)\wedge((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(v7\_ordinal1 X1)\Rightarrow(v4\_valued\_0 (k2\_funcop\_1 X0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (15)$$

Assume the following.

$$(\neg v1\_xboole\_0 \ k4\_ordinal1) \wedge (v3\_ordinal1 \ k4\_ordinal1) \quad (16)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v5\_ordinal1 \ X0))) \Rightarrow (v3\_ordinal1 \ (k9\_xtuple\_0 \ X0)) \quad (17)$$

Assume the following.

$$\forall X0. v1\_xboole\_0 \ (k2\_funcop\_1 \ k1\_xboole\_0 \ X0) \quad (18)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. \neg v1\_xboole\_0 \ (k4\_partfun1 \ X0 \ X1) \quad (20)$$

Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 \ (k2\_funcop\_1 \ X0 \ X1)) \wedge (v1\_funct\_1 \ (k2\_funcop\_1 \ X0 \ X1)) \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 \ X0) \wedge ((v4\_relat\_1 \ X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ & \ X0) \wedge ((v1\_finset\_1 \ X0) \wedge ((v1\_glib\_000 \ X0) \wedge (v2\_glib\_000 \ X0)))))) \Rightarrow \\ & (m1\_subset\_1 \ (k18\_lexbfs \ X0) \ (k2\_zfmisc\_1 \ (k3\_rfunct\_3 \ (k6\_glib\_000 \\ & \ X0) \ k5\_numbers) \ (k9\_funct\_2 \ (k6\_glib\_000 \ X0) \ k5\_numbers))) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0. \forall X1. k4\_tarski \ X0 \ X1 = k2\_tarski \ (k2\_tarski \ X0 \ X1) \ (k1\_tarski \ X0) \quad (23)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 \ X0) \wedge (v1\_funct\_1 \ X0)) \Rightarrow (\forall X1. \forall X2. \\ & ((X1 \in k9\_xtuple\_0 \ X0) \Rightarrow ((X2 = k1\_funct\_1 \ X0 \ X1) \Leftrightarrow (k4\_tarski \ X1 \ X2 \in \\ & \ X0))) \wedge ((\neg X1 \in k9\_xtuple\_0 \ X0) \Rightarrow ((X2 = k1\_funct\_1 \ X0 \ X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \end{aligned} \quad (24)$$

Assume the following.

$$\forall X0. \forall X1. k2\_funcop\_1 \ X0 \ X1 = k2\_zfmisc\_1 \ X0 \ (k1\_tarski \ X1) \quad (25)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 \ X0) \wedge ((v4\_relat\_1 \ X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ & \ X0) \wedge ((v1\_finset\_1 \ X0) \wedge ((v1\_glib\_000 \ X0) \wedge (v2\_glib\_000 \ X0)))))) \Rightarrow \\ & (k18\_lexbfs \ X0 = k4\_tarski \ k1\_xboole\_0 \ (k8\_funcop\_1 \ k5\_numbers \\ & \ (k6\_glib\_000 \ X0) \ k6\_numbers)) \end{aligned} \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.k2\_tarSKI X0 X1 = k2\_tarSKI X1 X0 \quad (27)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v5\_relat\_1 \\ X1 X0)) \Rightarrow ((v1\_xboole\_0 X1) \wedge ((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)))) \end{aligned} \quad (28)$$

Assume the following.

$$\forall X0.((v3\_ordinal1 X0) \wedge (v1\_finset\_1 X0)) \Rightarrow (v7\_ordinal1 X0) \quad (29)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (v1\_finset\_1 X0) \quad (30)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge ((v1\_glib\_000 X0) \wedge (v2\_glib\_000 X0)))))) \Rightarrow \\ (\forall X1.k1\_recdef\_1 (k8\_lexbfs (k3\_rfunct\_3 (k6\_glib\_000 \\ X0) k5\_numbers) k5\_numbers (k6\_glib\_000 X0) (k18\_lexbfs X0)) X1 = \\ k6\_numbers) \end{aligned}$$