

l9_glib_002 (TMRWeTLzanLJEg- BQLC4wcuSquJ8SXdmQKf8)

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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 $k1_glib_002 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $k7_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m3_glib_001 \\ X1 X0) \Rightarrow (\forall X2. (m3_glib_001 X2 X0) \Rightarrow (\forall X3. \forall X4. \\ \forall X5. ((r1_glib_001 X0 X3 X4 X1) \wedge (r1_glib_001 X0 X4 X5 X2)) \Rightarrow \\ (r1_glib_001 X0 X3 X5 (k7_glib_001 X0 X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. (m3_glib_001 \\ X1 X0) \Rightarrow (\forall X2. \forall X3. (r1_glib_001 X0 X2 X3 X1) \Leftrightarrow (r1_glib_001 \\ X0 X3 X2 (k6_glib_001 X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v1_relat_1 X0) \wedge ((v4_relat_1 \\ X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 \\ X0)))))) \wedge ((m3_glib_001 X1 X0) \wedge (m3_glib_001 X2 X0)) \Rightarrow (m3_glib_001 \\ (k7_glib_001 X0 X1 X2) X0) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m3_glib_001 \\ X1 X0) \Rightarrow (m3_glib_001 (k6_glib_001 X0 X1) X0) \end{aligned} \quad (5)$$

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

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))) \Rightarrow (\forall X1. (m1_subset_1 \\ & X1 (k6_glib_000 X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k6_glib_000 \\ & X0)) \Rightarrow ((X1 \in k1_glib_002 X0 X2) \Rightarrow (k1_glib_002 X0 X1 = k1_glib_002 \\ & X0 X2)))) \end{aligned}$$