

t111_glib_001

(TMUUha7Rn7j3fPaMtgKevi3GFgC8Jnd7j3r)

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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 $m3_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tarski : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $k28_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & (m1_subset_1 X2 (k6_glib_000 X0)) \Rightarrow ((X1 \in k28_glib_000 X0 X2) \Leftrightarrow (\\ & \quad r1_glib_000 X0 X2 (k29_glib_000 X0 X2 X1) X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \quad \forall X3. (m1_subset_1 X3 (k6_glib_000 X0)) \Rightarrow ((r1_glib_000 X0 \\ & \quad X3 X2 X1) \Rightarrow (X1 \in k28_glib_000 X0 X3))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & \quad \forall X3. (r1_glib_000 X0 X2 X3 X1) \Rightarrow ((k3_glib_001 X0 (k2_glib_001 \\ & \quad X0 X2 X3 X1) = X2) \wedge ((k4_glib_001 X0 (k2_glib_001 X0 X2 X3 X1) = X3) \wedge \\ & \quad (r1_glib_001 X0 X2 X3 (k2_glib_001 X0 X2 X3 X1)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3.(r1_glib_000 X0 X2 X3 X1) \Leftrightarrow (k14_glib_001 X0 (k2_glib_001 \\ X0 X2 X3 X1) = k1_tarski X1)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ X1 X0) \Rightarrow (\forall X2.(m3_glib_001 X2 X0) \Rightarrow ((k4_glib_001 X0 X1 = k3_glib_001 \\ X0 X2) \Rightarrow (k14_glib_001 X0 (k7_glib_001 X0 X1 X2) = k4_subset_1 (k7_glib_000 \\ X0) (k14_glib_001 X0 X1) (k14_glib_001 X0 X2)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. ((m1_subset_1 X1 (k1_zfmisc_1 \\ X0)) \wedge (m1_subset_1 X2 (k1_zfmisc_1 X0))) \Rightarrow (k4_subset_1 X0 X1 X2 = \\ k2_xboole_0 X1 X2) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m3_glib_001 \\ X1 X0)) \Rightarrow (m1_subset_1 (k3_glib_001 X0 X1) (k6_glib_000 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X0) \wedge \\ ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 \\ X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (m3_glib_001 (k2_glib_001 X0 X1 X2 X3) \\ X0) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m3_glib_001 \\ X1 X0)) \Rightarrow ((v1_finset_1 (k14_glib_001 X0 X1)) \wedge (m1_subset_1 (k14_glib_001 \\ X0 X1) (k1_zfmisc_1 (k7_glib_000 X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ X1 X0) \Rightarrow (\forall X2.k10_glib_001 X0 X1 X2 = k7_glib_001 X0 X1 (k2_glib_001 \\ X0 (k4_glib_001 X0 X1) (k29_glib_000 X0 (k4_glib_001 X0 X1) X2) X2))) \end{aligned} \quad (10)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 \ k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ & X1 X0) \Rightarrow (\forall X2.\forall X3.(r1_glib_000 X0 (k4_glib_001 X0 \\ X1) X3 X2) \Rightarrow (k14_glib_001 X0 (k10_glib_001 X0 X1 X2) = k2_xboole_0 \\ & (k14_glib_001 X0 X1) (k1_tarski X2)))) \end{aligned}$$