

t31_glib_003

(TMH96SK6hG9oowQ8FWcjWpQ95V8kwnn4GJK)

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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 $v1_glib_003 : \iota \Rightarrow o$ be given. Let $v8_glib_003 : \iota \Rightarrow o$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_glib_003 : \iota \Rightarrow \iota$ be given. Let $m3_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_glib_003 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v7_glib_003 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ 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.

$$\begin{aligned} \forall X0. (& (v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ & (v8_glib_003 X0)))))) \Rightarrow (\forall X1. (m3_glib_001 X1 X0) \Rightarrow (r1_xxreal_0 \\ & k6_numbers (k10_glib_003 X0 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ & (v7_glib_003 X0)))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (k6_glib_000 \\ & X0)) \Rightarrow (\forall X2. (m1_subset_1 X2 (k6_glib_000 X0)) \Rightarrow (\forall X3. \\ & (r1_glib_000 X0 X1 X2 X3) \Rightarrow (k10_glib_003 X0 (k2_glib_001 X0 X1 X2 \\ & X3) = k1_seq_1 (k5_glib_003 X0) X3)))) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge (m3_glib_001 \\ X1 X0)) \Rightarrow (m1_subset_1 (k4_glib_001 X0 X1) (k6_glib_000 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X0) \wedge \\ ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 \\ X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (m3_glib_001 (k2_glib_001 X0 X1 X2 X3) \\ X0) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \forall X3. (r1_glib_000 X0 X1 X2 X3) \Leftrightarrow ((X3 \in k7_glib_000 X0) \wedge (((\\ k1_funct_1 (k10_glib_000 X0) X3 = X1) \wedge (k1_funct_1 (k11_glib_000 \\ X0) X3 = X2)) \vee ((k1_funct_1 (k10_glib_000 X0) X3 = X2) \wedge (k1_funct_1 \\ (k11_glib_000 X0) X3 = X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ (v8_glib_003 X0)))))))) \Rightarrow ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 \\ X0) \wedge (v7_glib_003 X0)))))))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ (v8_glib_003 X0)))))))) \Rightarrow (\forall X1. (X1 \in k7_glib_000 X0) \Rightarrow (r1_xxreal_0 \\ k6_numbers (k1_seq_1 (k5_glib_003 X0) X1))) \end{aligned}$$