

t22_glib_003
(TMFH8Rfjwxy5kTiJFDCbuEany2wZDfHkaED)

October 27, 2020

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 $v7_glib_003 : \iota \Rightarrow o$ 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 $k10_glib_003 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_glib_003 : \iota \Rightarrow \iota$ be given. Let $k8_glib_003 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_finsop_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m3_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_glib_003 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_finseq_1 : \iota \Rightarrow \iota$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $v1_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k33_binop_2 : \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k18_rvsum_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge (v1_glib_003 X0)))))) \Rightarrow \\ & (\forall X1. \forall X2. \forall X3. (r1_glib_000 X0 X1 X2 X3) \Rightarrow (k8_glib_003 \\ & X0 (k2_glib_001 X0 X1 X2 X3) = k9_finseq_1 (k1_funct_1 (k5_glib_003 \\ & X0) X3))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. (\neg v1_xboole_0 X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow \\ & (\forall X2. ((v1_funct_1 X2) \wedge ((v1_funct_2 X2 (k2_zfmisc_1 X0 \\ & X0) X0) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 \\ & X0 X0) X0)))))) \Rightarrow (k1_finsop_1 X0 (k12_finseq_1 X0 X1) X2 = X1))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ & ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 \\ & X0) \wedge (v7_glib_003 X0)))))) \wedge (m3_glib_001 X1 X0)) \Rightarrow (k9_glib_003 \\ & X0 X1 = k8_glib_003 X0 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. k9_finseq_1 X0 = k5_finseq_1 X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (k12_finseq_1 X0 X1 = k5_finseq_1 X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ & (v7_glib_003 X0)))))) \Rightarrow ((v1_relat_1 (k5_glib_003 X0)) \wedge ((v4_relat_1 \\ & (k5_glib_003 X0) (k7_glib_000 X0)) \wedge ((v1_funct_1 (k5_glib_003 \\ & X0)) \wedge ((v1_partfun1 (k5_glib_003 X0) (k7_glib_000 X0)) \wedge (v3_valued_0 \\ & (k5_glib_003 X0)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge (v1_glib_003 X0)))))) \Rightarrow \\ & ((v1_relat_1 (k5_glib_003 X0)) \wedge ((v4_relat_1 (k5_glib_003 X0) \\ & (k7_glib_000 X0)) \wedge ((v1_funct_1 (k5_glib_003 X0)) \wedge (v1_partfun1 \\ & (k5_glib_003 X0) (k7_glib_000 X0)))))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k33_binop_2) \wedge ((v1_funct_2 k33_binop_2 (k2_zfmisc_1 \\ & k1_numbers k1_numbers) k1_numbers) \wedge (m1_subset_1 k33_binop_2 \\ & (k1_zfmisc_1 (k2_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers) \\ & k1_numbers)))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1_relat_1 X0) \wedge \\ & ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 X0) \wedge ((v1_finset_1 \\ & X0) \wedge (v1_glib_000 X0)))) \Rightarrow (m3_glib_001 (k2_glib_001 X0 X1 X2 X3) \\ & X0) \end{aligned} \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (m1_subset_1 (k1_seq_1 X0 X1) k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 X0)) \Rightarrow (m2_finseq_1 (k12_finseq_1 X0 X1) X0) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge ((v1_glib_000 X0) \wedge ((v1_glib_003 X0) \wedge \\ & (v7_glib_003 X0)))))) \Rightarrow (\forall X1. (m3_glib_001 X1 X0) \Rightarrow (k10_glib_003 \\ & X0 X1 = k18_rvsum_1 (k9_glib_003 X0 X1))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (m2_finseq_1 X0 k1_numbers) \Rightarrow (k18_rvsum_1 X0 = k1_finsop_1 k1_numbers X0 k33_binop_2) \quad (15)$$

Theorem 1

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