

1106_glib_001 (TM-
bvJ2p6Fa2hrm3ArH5hnWiUgMWtU6429P8)

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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 $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $v5_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $v1_abian : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v4_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_card_1 : \iota \Rightarrow o$ be given. Let $k2_xboole_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_glib_000 : \iota \Rightarrow \iota$ be given. Let $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ & (v1_xxreal_0 X2) \Rightarrow (((r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X2)) \Rightarrow \\ & (r1_xxreal_0 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\neg v1_abian \ np_1 \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow ((\\ & (r1_xxreal_0 X0 X1) \wedge (r1_xxreal_0 X1 X0)) \Rightarrow (X0 = X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v1_abian X0) \wedge (m1_subset_1 X0 \ k5_numbers)) \Rightarrow (\forall X1. \\ & ((\neg v1_abian X1) \wedge (m1_subset_1 X1 \ k5_numbers)) \Rightarrow ((\neg r1_xxreal_0 \\ & X1 X0) \Leftrightarrow (r1_xxreal_0 (k2_nat_1 X0 \ np_2) X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.((v7_ordinal1 X0) \wedge (\neg v1_abian X0)) \Rightarrow (r1_xxreal_0 np_1 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_3) \wedge (m2_subset_1 np_3 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_3 k5_numbers) \wedge (m1_subset_1 np_3 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \end{aligned} \quad (8)$$

Assume the following.

$$k2_xcmplx_0 np_2 np_1 = np_3 \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. (m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \quad (10)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (11)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge (v1_finset_1 X0) \wedge (v1_glib_000 X0)))) \Rightarrow (\forall X1. (m3_glib_001 \\ & X1 X0) \Rightarrow ((r1_xxreal_0 (k3_finseq_1 X1) np_3) \Rightarrow (v4_glib_001 X1 \\ & X0))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0. (v1_finset_1 X0) \Rightarrow ((v1_finset_1 (k1_card_1 X0)) \wedge (v1_card_1 (k1_card_1 X0))) \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ X1 X0) \Rightarrow (m2_finseq_1 X1 (k2_xboole_0 (k6_glib_000 X0) (k7_glib_000 \\ X0)))) \end{aligned} \quad (16)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(m2_finseq_1 X1 X0) \Rightarrow ((v1_funct_1 X1) \wedge (\\ (v1_finseq_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ X0)))))) \end{aligned} \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.(m1_finseq_1 X1 X0) \Rightarrow ((v1_relat_1 X1) \wedge (\\ (v1_funct_1 X1) \wedge (v1_finseq_1 X1))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0.v1_card_1 (k1_card_1 X0) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ X1 X0) \Rightarrow ((v5_glib_001 X1 X0) \Leftrightarrow ((v4_glib_001 X1 X0) \wedge (\forall X2. \\ ((\neg v1_abian X2) \wedge (m1_subset_1 X2 k5_numbers)) \Rightarrow (\forall X3.((\\ \neg v1_abian X3) \wedge (m1_subset_1 X3 k5_numbers)) \Rightarrow (((r1_xxreal_0 X3 \\ (k3_finseq_1 X1)) \wedge (k1_funct_1 X1 X2 = k1_funct_1 X1 X3)) \Rightarrow ((r1_xxreal_0 \\ X3 X2) \vee ((X2 = np_1) \wedge (X3 = k3_finseq_1 X1)))))))))) \end{aligned} \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (\\ (r1_xxreal_0 X0 X1) \vee (r1_xxreal_0 X1 X0)) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1.((m1_subset_1 X0 k5_numbers) \wedge (v7_ordinal1 \\ X1)) \Rightarrow (k2_nat_1 X0 X1 = k2_nat_1 X1 X0) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k4_ordinal1) \Rightarrow (v7_ordinal1 X0) \quad (23)$$

Assume the following.

$$\forall X0.((v3_ordinal1 X0) \wedge (v1_finset_1 X0)) \Rightarrow (v7_ordinal1 X0) \quad (24)$$

Assume the following.

$$\forall X0.(v7_ordinal1\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (25)$$

Assume the following.

$$\forall X0.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finseq_1\ X0)))\Rightarrow \\ ((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v1_finset_1\ X0))) \quad (26)$$

Assume the following.

$$\forall X0.(v1_card_1\ X0)\Rightarrow(v3_ordinal1\ X0) \quad (27)$$

Theorem 1

$$\forall X0.((v1_relat_1\ X0)\wedge((v4_relat_1\ X0\ k5_numbers)\wedge((v1_funct_1\ X0)\wedge((v1_finset_1\ X0)\wedge(v1_glib_000\ X0)))))\Rightarrow(\forall X1.(m3_glib_001\ X1\ X0)\Rightarrow((r1_xxreal_0\ (k3_finseq_1\ X1\ np_3)\Rightarrow(v5_glib_001\ X1\ X0)))$$