

t73_complsp2
(TMUQ7tZmCzkY7bbfGwyGLugyvqQ9CQFU4fa)

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Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k8_complsp2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_seq_4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 k2_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m2_finseq_1 X2 k2_numbers) \Rightarrow (((k3_finseq_1 \\ & X0 = k3_finseq_1 X1) \wedge (k3_finseq_1 X1 = k3_finseq_1 X2)) \Rightarrow (k8_complsp2 \\ & X0 (k9_seq_4 X1 X2) = k3_binop_2 (k8_complsp2 X0 X1) (k8_complsp2 \\ & X0 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 \\ & X0) \wedge (v1_valued_0 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v1_finseq_1 X1) \wedge (v1_valued_0 X1)))) \Rightarrow ((k3_finseq_1 X0 = \\ & k3_finseq_1 X1) \Rightarrow (k3_finseq_1 (k1_valued_1 X0 X1) = k3_finseq_1 \\ & X0))) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 k2_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m2_finseq_1 X2 k2_numbers) \Rightarrow (((k3_finseq_1 \\ & X0 = k3_finseq_1 X1) \wedge (k3_finseq_1 X1 = k3_finseq_1 X2)) \Rightarrow (k8_complsp2 \\ & (k9_seq_4 X0 X1) X2 = k3_binop_2 (k8_complsp2 X0 X2) (k8_complsp2 \\ & X1 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_xcmplx_0 X0)\wedge((v1_xcmplx_0 X1)\wedge(v1_xcmplx_0 X2)))\Rightarrow(k2_xcmplx_0 (k2_xcmplx_0 X0 X1) X2 = k2_xcmplx_0 X0 (k2_xcmplx_0 X1 X2)) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Leftrightarrow(m1_finseq_1 X1 X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 k2_numbers)\wedge(m1_finseq_1 X1 k2_numbers))\Rightarrow(k9_seq_4 X0 X1 = k1_valued_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k3_binop_2 X0 X1 = k2_xcmplx_0 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers X0)))))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 k2_numbers)\wedge(m1_finseq_1 X1 k2_numbers))\Rightarrow(m2_finseq_1 (k9_seq_4 X0 X1) k2_numbers) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((m1_finseq_1 X0 k2_numbers)\wedge(m1_finseq_1 X1 k2_numbers))\Rightarrow(m1_subset_1 (k8_complsp2 X0 X1) k2_numbers) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(m1_subset_1 (k3_binop_2 X0 X1) k2_numbers) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0)\wedge(v1_xcmplx_0 X1))\Rightarrow(k3_binop_2 X0 X1 = k3_binop_2 X1 X0) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0) \Rightarrow (v5_relat_1 X1 X0) \quad (15)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge (v5_relat_1 X0 k2_numbers)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (16)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m2_finseq_1 X0 k2_numbers) \Rightarrow (\forall X1.(m2_finseq_1 \\ & X1 k2_numbers) \Rightarrow (\forall X2.(m2_finseq_1 X2 k2_numbers) \Rightarrow (\forall X3. \\ & (m2_finseq_1 X3 k2_numbers) \Rightarrow (((k3_finseq_1 X0 = k3_finseq_1 X1) \wedge \\ & ((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge (k3_finseq_1 X2 = k3_finseq_1 \\ & X3))) \Rightarrow (k8_complsp2 (k9_seq_4 X0 X1) (k9_seq_4 X2 X3) = k3_binop_2 \\ & (k3_binop_2 (k3_binop_2 (k8_complsp2 X0 X2) (k8_complsp2 X0 X3)) \\ & (k8_complsp2 X1 X2)) (k8_complsp2 X1 X3)))))) \end{aligned}$$