# t107_finseq_2 (TM-PRnbV1VhFurzF9cWRdsGBJdekbvaDMt3r)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v3\_card\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Rightarrow (\forall X2.(m2\_finseq\_1\ X2\ X0) \Rightarrow (m2\_finseq\_1\ (k8\_finseq\_1\ X0\ X1\ X2)\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.(\neg v1\_xboole\_0\ X2) \Rightarrow (k4\_finseq\_2\ (k2\_xcmplx\_0\ X0\ X1)\ X2 = ReplSep2\ (toset\ (\lambda X3 : \iota.(v3\_card\_1\ X3\ X0) \wedge (m2\_finseq\_1\ X3\ X2)))\ (\lambda X3 : \iota.toset\ (\lambda X4 : \iota.(v3\_card\_1\ X4\ X1) \wedge (m2\_finseq\_1\ X4\ X2)))\ (\lambda X3 : \iota.\lambda X4 : \iota.True)\ (\lambda X3 : \iota.\lambda X4 : \iota.k8\_finseq\_1\ X2\ X3\ X4)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1\ X1\ X0) \wedge (m1\_finseq\_1\ X2\ X0)) \Rightarrow (k8\_finseq\_1\ X0\ X1\ X2 = k7\_finseq\_1\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1\ X0) \wedge (v7\_ordinal1\ X1)) \Rightarrow (v7\_ordinal1\ (k2\_xcmplx\_0\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(v7\_ordinal1\ X1))\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (k4\_finseq\_2\ X1\ X0))\Rightarrow(v3\_card\_1\ X2\ X1)) \tag{7}$$

**Theorem 1**

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v3\_card\_1\ X3\ X0)\wedge(m2\_finseq\_1\ X3\ X2))\Rightarrow(\forall X4.((v3\_card\_1\ X4\ X1)\wedge(m2\_finseq\_1\ X4\ X2))\Rightarrow((v3\_card\_1\ (k8\_finseq\_1\ X2\ X3\ X4)\ (k2\_xcmplx\_0\ X0\ X1))\wedge(m2\_finseq\_1\ (k8\_finseq\_1\ X2\ X3\ X4)\ X2))))))$$