t72_finseq_5 (TMXH8dtMery8EmyTAkLtRFDC7H6TeG1fqLZ)

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Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_finseq\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_rfinseq : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k12\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2.\ \forall X3.(m2\_finseq\_1\ X3\ X2) \Rightarrow ((X0 \in k4\_finseq\_1\ (k17\_finseq\_1\ X2\ X1\ X3)) \Rightarrow (k7\_partfun1\ X2\ (k17\_finseq\_1\ X2\ X1\ X3)\ X0 = k7\_partfun1\ X2\ X3\ X0))))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finseq\_1\ X0))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge (v1\_finseq\_1\ X1))) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v1\_funct\_1\ X2) \wedge (v1\_finseq\_1\ X2))) \Rightarrow (k7\_finseq\_1\ (k7\_finseq\_1\ X0\ X1)\ X2 = k7\_finseq\_1\ X0\ (k7\_finseq\_1\ X1\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1\ X1\ X0) \Leftrightarrow (m1\_finseq\_1\ X1\ X0) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1\ X1\ X0) \wedge (m1\_finseq\_1\ X2\ X0)) \Rightarrow (k8\_finseq\_1\ X0\ X1\ X2 = k7\_finseq\_1\ X1\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X1) \wedge (m1\_finseq\_1\ X2\ X0)) \Rightarrow (k2\_rfinseq\ X0\ X1\ X2 = k1\_rfinseq\ X1\ X2) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X1)\wedge(m1\_finseq\_1\ X2\ X0))\Rightarrow(k17\_finseq\_1\ X0\ X1\ X2 = k16\_finseq\_1\ X1\ X2) \tag{6}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(m2\_finseq\_1\ X2\ X1)\Rightarrow(\forall X3.(m2\_finseq\_1\ X3\ X1)\Rightarrow((X0 \in k4\_finseq\_1\ X2)\Rightarrow(k7\_partfun1\ X1\ (k8\_finseq\_1\ X1\ X2\ X3)\ X0 = k7\_partfun1\ X1\ X2\ X0))))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v1\_finseq\_1\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_finseq\_1\ X1\ X0)\wedge(m1\_finseq\_1\ X2\ X0))\Rightarrow(m2\_finseq\_1\ (k8\_finseq\_1\ X0\ X1\ X2)\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X1)\wedge(m1\_finseq\_1\ X2\ X0))\Rightarrow(m2\_finseq\_1\ (k2\_rfinseq\ X0\ X1\ X2)\ X0) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1\ X1)\wedge(m1\_finseq\_1\ X2\ X0))\Rightarrow(m2\_finseq\_1\ (k17\_finseq\_1\ X0\ X1\ X2)\ X0) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge(m1\_subset\_1\ X1\ X0))\Rightarrow(m2\_finseq\_1\ (k12\_finseq\_1\ X0\ X1)\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(k5\_finseq\_5\ X0\ X1\ X2\ X3 = k8\_finseq\_1\ X0\ (k8\_finseq\_1\ X0\ (k17\_finseq\_1\ X0\ X3\ X1)\ (k12\_finseq\_1\ X0\ X2))\ (k2\_rfinseq\ X0\ X3\ X1))))) \tag{13}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X1)\Rightarrow(\forall X3.(m2\_finseq\_1\ X3\ X1)\Rightarrow(\forall X4.(v7\_ordinal1\ X4)\Rightarrow((X4 \in k4\_finseq\_1\ (k17\_finseq\_1\ X1\ X0\ X3))\Rightarrow(k7\_partfun1\ X1\ (k5\_finseq\_5\ X1\ X3\ X2\ X0)\ X4 = k7\_partfun1\ X1\ X3\ X4))))))$$