t24_finseq_7 (TMU6hjrB68KbE7eJUZkmjS77Q6Pq4Ks9Yjr)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $np\_\_2 : \iota$ 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 $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k5\_numbers : \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_relat\_1\ X3) \wedge ((v1\_funct\_1\ X3) \wedge (v1\_finseq\_1\ X3))) \Rightarrow ((X3 = k11\_finseq\_1\ X0\ X1\ X2) \Leftrightarrow ((k3\_finseq\_1\ X3 = np\_\_3) \wedge ((k1\_funct\_1\ X3\ np\_\_1 = X0) \wedge ((k1\_funct\_1\ X3\ np\_\_2 = X1) \wedge (k1\_funct\_1\ X3\ np\_\_3 = X2)))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(k11\_finseq\_1\ X0\ X1\ X2 = k7\_finseq\_1\ (k9\_finseq\_1\ X0)\ (k10\_finseq\_1\ X1\ X2)) \wedge (k11\_finseq\_1\ X0\ X1\ X2 = k7\_finseq\_1\ (k10\_finseq\_1\ X0\ X1)\ (k9\_finseq\_1\ X2)) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow ((k7\_partfun1\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_1 = X1) \wedge ((k7\_partfun1\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_2 = X2) \wedge (k7\_partfun1\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_3 = X3)))))) \tag{3}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow(k1\_finseq\_7\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_2\ X4 = k3\_finseq\_4\ X0\ X1\ X4\ X3))))) \tag{4}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow (\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow (\forall X4.(m1\_subset\_1\ X4\ X0)\Rightarrow(k1\_finseq\_7\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_1\ X4 = k3\_finseq\_4\ X0\ X4\ X2\ X3))))) \tag{5}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge ((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{6}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{7}$$

Assume the following.

$$r1\_xxreal\_0\ np\_\_2\ np\_\_3 \tag{8}$$

Assume the following.

$$r1\_xxreal\_0\ np\_\_1\ np\_\_3 \tag{9}$$

Assume the following.

$$r1\_xxreal\_0\ np\_\_1\ np\_\_2 \tag{10}$$

Assume the following.

$$r1\_xxreal\_0\ np\_\_1\ np\_\_1 \tag{11}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge ((m1\_subset\_1\ X1\ X0)\wedge((m1\_subset\_1\ X2\ X0)\wedge(m1\_subset\_1\ X3\ X0))))\Rightarrow (k3\_finseq\_4\ X0\ X1\ X2\ X3 = k11\_finseq\_1\ X1\ X2\ X3) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(v1\_relat\_1\ (k11\_finseq\_1\ X0\ X1\ X2))\wedge(v1\_funct\_1\ (k11\_finseq\_1\ X0\ X1\ X2)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.v1\_finseq\_1\ (k11\_finseq\_1\ X0\ X1\ X2) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge((m1\_subset\_1\ X1\ X0)\wedge((m1\_subset\_1\ X2\ X0)\wedge(m1\_subset\_1\ X3\ X0))))\Rightarrow(m2\_finseq\_1\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ X0) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.k10\_finseq\_1\ X0\ X1 = k7\_finseq\_1\ (k9\_finseq\_1\ X0)\ (k9\_finseq\_1\ X1) \tag{17}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m2\_finseq\_1\ X1\ X0)\Rightarrow(\forall X2.(v7\_ordinal1\ X2)\Rightarrow(\forall X3.(v7\_ordinal1\ X3)\Rightarrow(((r1\_xxreal\_0\ np\_\_1\ X2)\wedge((r1\_xxreal\_0\ X2\ (k3\_finseq\_1\ X1))\wedge((r1\_xxreal\_0\ np\_\_1\ X3)\wedge(r1\_xxreal\_0\ X3\ (k3\_finseq\_1\ X1)))))\Rightarrow(k2\_finseq\_7\ X0\ X1\ X2\ X3 = k1\_finseq\_7\ X0\ (k1\_finseq\_7\ X0\ X1\ X2\ (k7\_partfun1\ X0\ X1\ X3))\ X3\ (k7\_partfun1\ X0\ X1\ X2)))\wedge((\neg(r1\_xxreal\_0\ np\_\_1\ X2)\wedge((r1\_xxreal\_0\ X2\ (k3\_finseq\_1\ X1))\wedge((r1\_xxreal\_0\ np\_\_1\ X3)\wedge(r1\_xxreal\_0\ X3\ (k3\_finseq\_1\ X1)))))\Rightarrow(k2\_finseq\_7\ X0\ X1\ X2\ X3 = X1)))))) \tag{18}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \tag{19}$$

Theorem 1

$$\forall X0.(\neg v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ X0)\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ X0)\Rightarrow(k2\_finseq\_7\ X0\ (k3\_finseq\_4\ X0\ X1\ X2\ X3)\ np\_\_1\ np\_\_2 = k3\_finseq\_4\ X0\ X2\ X1\ X3))))$$