

t70\_finseq\_4  
(TMT8sdqMWrn353AtUQwmb5e1dpnuceTixH3)

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Let  $v7\_ordinal1 : \iota \Rightarrow o$  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  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_finseq\_1 : \iota \Rightarrow o$  be given. Let  $k16\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = k3\_xboole\_0 (k9\_xtuple\_0 X1) X0) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k5\_relat\_1 X2 X1)) \Rightarrow (k1\_funct\_1 (k5\_relat\_1 X2 X1) X0 = k1\_funct\_1 X2 X0)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v7\_ordinal1 X1) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k17\_finseq\_1 X0 X1 X2 = k16\_finseq\_1 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0)\Rightarrow((v1\_funct\_1 X1)\wedge((v1\_finseq\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k5\_numbers X0)))))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7\_ordinal1 X1)\wedge(m1\_finseq\_1 X2 X0))\Rightarrow(m2\_finseq\_1 (k17\_finseq\_1 X0 X1 X2) X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v7\_ordinal1 X0)\wedge((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow((v1\_relat\_1 (k16\_finseq\_1 X0 X1))\wedge((v1\_funct\_1 (k16\_finseq\_1 X0 X1))\wedge(v1\_finseq\_1 (k16\_finseq\_1 X0 X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge((v1\_funct\_1 X1))))\Rightarrow(\forall X2.(X2 \in k9\_xtuple\_0 X1)\Rightarrow(k7\_partfun1 X0 X1 X2 = k1\_funct\_1 X1 X2)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \quad (11)$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0)\Rightarrow(\forall X1.((v1\_relat\_1 X1)\wedge((v1\_funct\_1 X1)\wedge(v1\_finseq\_1 X1))))\Rightarrow(k16\_finseq\_1 X0 X1 = k5\_relat\_1 X1 (k2\_finseq\_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_1 X1 X0)\Rightarrow(v5\_relat\_1 X1 X0) \quad (13)$$

### Theorem 1

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