

t71\_finseq\_4  
(TMFy8nansjrfTd2k21JiM3DuSSrKRoeqK9N)

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Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  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. Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = X0)) \tag{2}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((r1\_xxreal\_0 X0 X1) \Leftrightarrow (r1\_tarski (k2\_finseq\_1 X0) (k2\_finseq\_1 X1)))) \tag{3}$$

Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow ((X0 \in k2\_finseq\_1 X1) \Leftrightarrow ((r1\_xxreal\_0 np\_1 X0) \wedge (r1\_xxreal\_0 X0 X1)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m2\_finseq\_1 X1 X0) \Leftrightarrow (m1\_finseq\_1 X1 X0) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_finseq\_1 X0))) \Rightarrow (k4\_finseq\_1 X0 = k9\_xtuple\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v7\_ordinal1 X1) \wedge (m1\_finseq\_1 X2 X0)) \Rightarrow (k17\_finseq\_1 X0 X1 X2 = k16\_finseq\_1 X1 X2) \quad (7)$$

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.

$$\forall X0. \forall X1. ((v7\_ordinal1 X0) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow ((v1\_relat\_1 (k16\_finseq\_1 X0 X1)) \wedge ((v1\_funct\_1 (k16\_finseq\_1 X0 X1)) \wedge (v1\_finseq\_1 (k16\_finseq\_1 X0 X1)))) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (11)$$

Assume the following.

$$\forall X0. (v1\_relat\_1 X0) \Rightarrow ((v1\_finseq\_1 X0) \Leftrightarrow (\exists X1. (v7\_ordinal1 X1) \wedge (k9\_xtuple\_0 X0 = k2\_finseq\_1 X1))) \quad (12)$$

Assume the following.

$$\forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1)))) \Rightarrow (k16\_finseq\_1 X0 X1 = k5\_relat\_1 X1 (k2\_finseq\_1 X0)) \quad (13)$$

**Theorem 1**

$$\forall X0. \forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow (((X2 \in k4\_finseq\_1 X1) \wedge (X3 \in k2\_finseq\_1 X2)) \Rightarrow ((X3 \in k4\_finseq\_1 X1) \wedge (k7\_partfun1 X0 (k17\_finseq\_1 X0 X2 X1) X3 = k7\_partfun1 X0 X1 X3))))))$$