

t23\_finseq\_2 (TM-  
PWk1D6JJWHXe7yCxT4gdFq47eMBNaRW6C)

October 27, 2020

Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_finseq_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_finseq_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat_1 X0) \wedge ((v1\_funct_1 X0) \wedge (v1\_finseq_1 X0))) \Rightarrow \\ & \quad (\forall X1.((v1\_relat_1 X1) \wedge ((v1\_funct_1 X1) \wedge (v1\_finseq_1 \\ & X1)))) \Rightarrow (\forall X2.(m2\_finseq_1 (k7\_finseq_1 X0 X1) X2) \Rightarrow ((m2\_finseq_1 \\ & X0 X2) \wedge (m2\_finseq_1 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.(v7\_ordinal1 X0) \Rightarrow (\forall X1.(v7\_ordinal1 X1) \Rightarrow (\forall X2. \\ & ((v1\_relat_1 X2) \wedge ((v1\_funct_1 X2) \wedge (v1\_finseq_1 X2))) \Rightarrow (\neg(k3\_finseq_1 \\ & X2 = k2\_xcmplx_0 X0 X1) \wedge (\forall X3.((v1\_relat_1 X3) \wedge ((v1\_funct_1 \\ & X3) \wedge (v1\_finseq_1 X3))) \Rightarrow (\forall X4.((v1\_relat_1 X4) \wedge ((v1\_funct_1 \\ & X4) \wedge (v1\_finseq_1 X4))) \Rightarrow (\neg(k3\_finseq_1 X3 = X0) \wedge ((k3\_finseq_1 \\ & X4 = X1) \wedge (X2 = k7\_finseq_1 X3 X4)))))))))) \end{aligned} \tag{2}$$

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.

$$\forall X0. \forall X1. (m1\_finseq_1 X1 X0) \Rightarrow ((v1\_relat_1 X1) \wedge ((v1\_funct_1 X1) \wedge (v1\_finseq_1 X1))) \tag{5}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.(v7\_ordinal1\ X1) \Rightarrow (\forall X2. \\ & (\neg v1\_xboole\_0\ X2) \Rightarrow (\forall X3.(m2\_finseq\_1\ X3\ X2) \Rightarrow (\neg(k3\_finseq\_1 \\ & X3 = k2\_xcmplx\_0\ X0\ X1) \wedge (\forall X4.(m2\_finseq\_1\ X4\ X2) \Rightarrow (\forall X5. \\ & (m2\_finseq\_1\ X5\ X2) \Rightarrow (\neg(k3\_finseq\_1\ X4 = X0) \wedge ((k3\_finseq\_1\ X5 = \\ & X1) \wedge (X3 = k8\_finseq\_1\ X2\ X4\ X5)))))))))) \end{aligned}$$