

t31\_finseq\_7 (TMXV-  
gaKZ4k8gaabLSB9tgvKWnGKv6ZAfPtF)

October 27, 2020

Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $np\_1 : \iota$  be given. Let  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_finseq\_7 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow \\ (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow ( \\ k3\_finseq\_1 (k2\_finseq\_7 X0 X1 X2 X3) = k3\_finseq\_1 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (v7\_ordinal1 X0) \Rightarrow (\forall X1. \forall X2. (m2\_finseq\_1 \\ X2 X1) \Rightarrow (((r1\_xxreal\_0 np\_1 X0) \wedge (r1\_xxreal\_0 X0 (k3\_finseq\_1 \\ X2))) \Rightarrow (k7\_partfun1 X1 X2 X0 = k1\_funct\_1 X2 X0))) \end{aligned} \quad (2)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m2\_finseq\_1 X1 X0) \Rightarrow \\ (\forall X2. (v7\_ordinal1 X2) \Rightarrow (\forall X3. (v7\_ordinal1 X3) \Rightarrow ( \\ ((r1\_xxreal\_0 np\_1 X2) \wedge ((r1\_xxreal\_0 X2 (k3\_finseq\_1 X1)) \wedge ( \\ (r1\_xxreal\_0 np\_1 X3) \wedge (r1\_xxreal\_0 X3 (k3\_finseq\_1 X1)))))) \Rightarrow \\ ((k1\_funct\_1 (k2\_finseq\_7 X0 X1 X2 X3) X2 = k1\_funct\_1 X1 X3) \wedge (k1\_funct\_1 \\ (k2\_finseq\_7 X0 X1 X2 X3) X3 = k1\_funct\_1 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((\neg v1\_xboole\_0 X0) \wedge \\ ((m1\_finseq\_1 X1 X0) \wedge ((v7\_ordinal1 X2) \wedge (v7\_ordinal1 X3)))) \Rightarrow \\ (m2\_finseq\_1 (k2\_finseq\_7 X0 X1 X2 X3) X0) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(m2\_finseq\_1 X1 X0) \Rightarrow \\ & \quad (\forall X2.(v7\_ordinal1 X2) \Rightarrow (\forall X3.(v7\_ordinal1 X3) \Rightarrow ( \\ & \quad (r1\_xxreal\_0 np\_1 X2) \wedge ((r1\_xxreal\_0 X2 (k3\_finseq\_1 X1)) \wedge ( \\ & \quad (r1\_xxreal\_0 np\_1 X3) \wedge (r1\_xxreal\_0 X3 (k3\_finseq\_1 X1)))))) \Rightarrow \\ & \quad ((k7\_partfun1 X0 (k2\_finseq\_7 X0 X1 X2 X3) X2 = k7\_partfun1 X0 X1 X3) \wedge \\ & \quad (k7\_partfun1 X0 (k2\_finseq\_7 X0 X1 X2 X3) X3 = k7\_partfun1 X0 X1 X2)))))) \end{aligned}$$