

# l84\_finseq\_3

## (TMRf5oep66RrsXAHbzsnxvB7yfcVgkCMwSx)

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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  $k1\_finseq\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k9\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0 : \iota \Rightarrow o. ((X0 \ k1\_xboole\_0) \wedge (\forall X1. ((v1\_relat\_1 \\ X1) \wedge ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1)))) \Rightarrow (\forall X2. (X0 \ X1) \Rightarrow \\ (X0 \ (k7\_finseq\_1 \ X1 \ (k9\_finseq\_1 \ X2)))))) \Rightarrow (\forall X1. ((v1\_relat\_1 \\ X1) \wedge ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \ X1)))) \Rightarrow (X0 \ X1) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ (\forall X1. (\forall X2. ((v1\_relat\_1 \ X2) \wedge ((v1\_funct\_1 \ X2) \wedge ( \\ v1\_finseq\_1 \ X2)))) \Rightarrow (\forall X3. k1\_finseq\_3 \ (k7\_finseq\_1 \ X2 \ X0) \\ X3 = k7\_finseq\_1 \ (k1\_finseq\_3 \ X2 \ X3) \ (k1\_finseq\_3 \ X0 \ X3))) \Rightarrow (\forall X2. \\ ((v1\_relat\_1 \ X2) \wedge ((v1\_funct\_1 \ X2) \wedge (v1\_finseq\_1 \ X2)))) \Rightarrow (\forall X3. \\ k1\_finseq\_3 \ (k7\_finseq\_1 \ X2 \ (k7\_finseq\_1 \ X0 \ (k9\_finseq\_1 \ X1))) \\ X3 = k7\_finseq\_1 \ (k1\_finseq\_3 \ X2 \ X3) \ (k1\_finseq\_3 \ (k7\_finseq\_1 \\ X0 \ (k9\_finseq\_1 \ X1) \ X3)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ (\forall X1. k1\_finseq\_3 \ (k7\_finseq\_1 \ X0 \ k1\_xboole\_0) \ X1 = k7\_finseq\_1 \\ (k1\_finseq\_3 \ X0 \ X1) \ (k1\_finseq\_3 \ k1\_xboole\_0 \ X1)) \end{aligned} \quad (3)$$

Assume the following.

$$k1\_xboole\_0 = \text{the } (\lambda X0 : \iota. v1\_xboole\_0 \ X0) \quad (4)$$

### Theorem 1

$$\begin{aligned} \forall X0. ((v1\_relat\_1 \ X0) \wedge ((v1\_funct\_1 \ X0) \wedge (v1\_finseq\_1 \ X0))) \Rightarrow \\ (\forall X1. ((v1\_relat\_1 \ X1) \wedge ((v1\_funct\_1 \ X1) \wedge (v1\_finseq\_1 \\ X1)))) \Rightarrow (\forall X2. k1\_finseq\_3 \ (k7\_finseq\_1 \ X1 \ X0) \ X2 = k7\_finseq\_1 \\ (k1\_finseq\_3 \ X1 \ X2) \ (k1\_finseq\_3 \ X0 \ X2))) \end{aligned}$$