

## t40\_funct\_7

(TMS74eoYh7v8iBVnzLF9cGKwf2TUHiogfKj)

October 27, 2020

Let  $k5\_funct\_7 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  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  $k3\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k4\_finseq\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k2\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funcop\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_finseq\_1 X1))) \Rightarrow ((X1 = k9\_finseq\_1 X0) \Leftrightarrow ((k3\_finseq\_1 X1 = np\_1) \wedge (k1\_funct\_1 X1 np\_1 = X0))) \quad (3)$$

Assume the following.

$$k1\_card\_1 k1\_xboole\_0 = k1\_xboole\_0 \quad (4)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \quad (5)$$

Assume the following.

$$(m2\_subset\_1\ np\_0\ k1\_numbers\ k5\_numbers) \wedge ((m1\_subset\_1\ np\_0\ k5\_numbers) \wedge (m1\_subset\_1\ np\_0\ k1\_numbers)) \quad (6)$$

Assume the following.

$$v1\_xboole\_0\ np\_0 \quad (7)$$

Assume the following.

$$k2\_xcmplx\_0\ np\_0\ np\_1 = np\_1 \quad (8)$$

Assume the following.

$$\forall X0. k9\_finseq\_1\ X0 = k5\_finseq\_1\ X0 \quad (9)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (10)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finseq\_1\ X0))) \Rightarrow (k4\_finseq\_1\ X0 = k9\_xtuple\_0\ X0) \quad (11)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge (v1\_finseq\_1\ X0))) \Rightarrow (k3\_finseq\_1\ X0 = k1\_card\_1\ X0) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1\ X0\ k5\_numbers) \wedge (v7\_ordinal1\ X1)) \Rightarrow (k2\_nat\_1\ X0\ X1 = k2\_xcmplx\_0\ X0\ X1) \quad (13)$$

Assume the following.

$$\forall X0. \exists X1. (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \wedge (v1\_xboole\_0\ X1) \quad (14)$$

Assume the following.

$$\forall X0. v1\_finseq\_1\ (k5\_finseq\_1\ X0) \quad (15)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0\ X0) \Rightarrow (v1\_xboole\_0\ (k9\_xtuple\_0\ X0)) \quad (16)$$

Assume the following.

$$\forall X0. (v1\_relat\_1\ (k9\_finseq\_1\ X0)) \wedge (v1\_funct\_1\ (k9\_finseq\_1\ X0)) \quad (17)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_funcop\_1 \\ X0) \wedge (v1\_finseq\_1 X0)))) \Rightarrow (\forall X1. \forall X2. ((v1\_relat\_1 \\ X2) \wedge ((v1\_funct\_1 X2) \wedge (v1\_finseq\_1 X2))) \Rightarrow ((X2 = k5\_funct\_7 X0 \\ X1) \Leftrightarrow ((k3\_finseq\_1 X2 = k2\_nat\_1 (k3\_finseq\_1 X0) np\_1) \wedge ((k1\_funct\_1 \\ X2 np\_1 = X1) \wedge (\forall X3. (m1\_subset\_1 X3 k5\_numbers) \Rightarrow (\forall X4. \\ ((v1\_relat\_1 X4) \wedge (v1\_funct\_1 X4)) \Rightarrow (((X3 \in k4\_finseq\_1 X0) \wedge (X4 = \\ k1\_funct\_1 X0 X3)) \Rightarrow (k1\_funct\_1 X2 (k2\_nat\_1 X3 np\_1) = k1\_funct\_1 \\ X4 (k1\_funct\_1 X2 X3)))))))))) \end{aligned} \quad (18)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k4\_ordinal1) \Rightarrow (v7\_ordinal1 X0) \quad (19)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_relat\_1 X0) \quad (20)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_xboole\_0 X0) \wedge ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0))) \Rightarrow \\ ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_funcop\_1 X0))) \end{aligned} \quad (21)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Rightarrow (v1\_funct\_1 X0) \quad (22)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_xboole\_0 X0)) \Rightarrow ((v1\_relat\_1 \\ X0) \wedge (v1\_finseq\_1 X0)) \quad (23)$$

**Theorem 1**  $\forall X0. k5\_funct\_7 k1\_xboole\_0 X0 = k9\_finseq\_1 X0.$