

## t18\_card\_fin

(TMKybap9ksLTmhF2Zmg8zxBBFrC9qTqwJeu)

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Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_card\_fin : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarSKI : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_tarSKI : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_xboole\_0 (k9\_xtuple\_0 \\ X0) (k9\_xtuple\_0 X1)) \Rightarrow (k1\_funct\_4 X0 X1 = k1\_funct\_4 X1 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1\_finset\_1 X2) \Rightarrow (\forall X3. \\ (v1\_finset\_1 X3) \Rightarrow ((X0 \neq X1) \Rightarrow (k1\_funct\_4 (k7\_funcop\_1 X2 X1) (k7\_funcop\_1 \\ X3 X0) \in k1\_card\_fin (k2\_xboole\_0 X3 X2) (k5\_card\_1 X3) X0 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge ( \\ r1\_tarSKI (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarSKI X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. (v1\_funct\_1 (k7\_funcop\_1 X0 X1)) \wedge ((v1\_funct\_2 \\ (k7\_funcop\_1 X0 X1) X0 (k1\_tarSKI X1)) \wedge (m1\_subset\_1 (k7\_funcop\_1 \\ X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k1\_tarSKI X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k2\_funcop\_1 X0 X1 = k2\_zfmisc\_1 X0 (k1\_tarski X1) \quad (7)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(v1\_finset\_1 X2) \Rightarrow (\forall X3. \\ & (v1\_finset\_1 X3) \Rightarrow ((r1\_xboole\_0 X2 X3) \Rightarrow ((X0 = X1) \vee (k1\_funct\_4 \\ & (k7\_funcop\_1 X2 X0) (k7\_funcop\_1 X3 X1) \in k1\_card\_fin (k2\_xboole\_0 \\ & X2 X3) (k5\_card\_1 X2) X0 X1)))) \end{aligned}$$