

t37\_card\_fin  
(TMKud3xA5QFCtCw7kHXqH1Lna2bQunBD5Du)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k2\_card\_fin : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\forall X0. \forall X1. \forall X2. (X1 \in X0) \Rightarrow (k1\_funct\_1 (k2\_funcop\_1 X0 X2) X1 = X2) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1\_xboole\_0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (\forall X3. ((v1\_relat\_1 X3) \wedge (v1\_funct\_1 X3)) \Rightarrow ((\neg v1\_xboole\_0 \\ & (k3\_xboole\_0 (k9\_xtuple\_0 X2) (k8\_relat\_1 X3 (k1\_tarski X0)))) \Rightarrow \\ & ((X1 \in k2\_card\_fin X2 X3 X0) \Leftrightarrow (\forall X4. ((X4 \in k9\_xtuple\_0 X3) \wedge \\ & (k1\_funct\_1 X3 X4 = X0)) \Rightarrow (X1 \in k1\_funct\_1 X2 X4)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k8\_relat\_1 (k2\_funcop\_1 X0 X1) (k1\_tarski X1) = X0 \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (k9\_xtuple\_0 (k2\_funcop\_1 X0 X1) = X0) \wedge (r1\_tarski (k10\_xtuple\_0 (k2\_funcop\_1 X0 X1)) (k1\_tarski X1)) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. k7\_funcop\_1 X0 X1 = k2\_funcop\_1 X0 X1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X0 = X0 \quad (7)$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0 X0)\wedge(v1\_relat\_1 X0))\Rightarrow(\neg v1\_xboole\_0 (k9\_xtuple\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_funct\_1 (k7\_funcop\_1 X0 X1))\wedge((v1\_funct\_2 (k7\_funcop\_1 X0 X1) X0 (k1\_tarski X1))\wedge(m1\_subset\_1 (k7\_funcop\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 (k1\_tarski X1)))))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.k2\_funcop\_1 X0 X1 = k2\_zfmisc\_1 X0 (k1\_tarski X1) \quad (11)$$

**Theorem 1**

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1 X2)\wedge(v1\_funct\_1 X2))\Rightarrow((\neg v1\_xboole\_0 X2)\Rightarrow((X0 \in k2\_card\_fin X2 (k7\_funcop\_1 (k9\_xtuple\_0 X2) X1) X1)\Leftrightarrow(\forall X3.(X3 \in k9\_xtuple\_0 X2)\Rightarrow(X0 \in k1\_funct\_1 X2 X3))))$$