

t21\_card\_fin (TM-  
driycL7KDBfTMwFzYANyxYDjdguVREMMT)

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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  $k8\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (\neg(\neg r1\_xboole\_0 X0 X1) \wedge (\forall X2. \neg(X2 \in X0) \wedge (X2 \in X1))) \wedge (\neg(\exists X2. (X2 \in X0) \wedge (X2 \in X1)) \wedge (r1\_xboole\_0 X0 X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \Rightarrow (m1\_subset\_1 (k2\_card\_fin X0 X1 X2) (k1\_zfmisc\_1 (k3\_tarski (k10\_xtuple\_0 X0)))) \quad (2)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. \forall X2. (X2 = k8\_relat\_1 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in k9\_xtuple\_0 X0) \wedge (k1\_funct\_1 X0 X3 \in X1)))) \quad (3)$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2. \forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k3\_tarski (k10\_xtuple\_0 X0)))) \Rightarrow ((X3 = k2\_card\_fin X0 X1 X2) \Leftrightarrow (\forall X4. (X4 \in X3) \Leftrightarrow ((X4 \in k3\_tarski (k10\_xtuple\_0 X0)) \wedge (\forall X5. ((X5 \in k9\_xtuple\_0 X1) \wedge (k1\_funct\_1 X1 X5 = X2)) \Rightarrow (X4 \in k1\_funct\_1 X0 X5)))))))))) \quad (4)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 X0) \Leftrightarrow (\forall X1. \neg X1 \in X0) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarski\ X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \Rightarrow ((\neg v1\_xboole\_0\ (k2\_card\_fin \\ & X1\ X2\ X0)) \Rightarrow (\forall X3.\forall X4. \neg (X3 \in k8\_relat\_1\ X2\ (k1\_tarski \\ & X0)) \wedge ((X4 \in k8\_relat\_1\ X2\ (k1\_tarski\ X0)) \wedge (r1\_xboole\_0\ (k1\_funct\_1 \\ & X1\ X3)\ (k1\_funct\_1\ X1\ X4)))))) \end{aligned}$$