

t13\_card\_fil (TMZb-  
mQew7xgNCBCcfa27fn6JZFXCvH9Cv6h)

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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  $m1\_card\_fil : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_card\_fil : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (m1\_subset\_1 (k9\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_card\_fil X1 X0) \Rightarrow \\ (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)) \Rightarrow (k2\_card\_fil X0 \\ X1 X2 = \text{ReplSep} (\text{toset} (\lambda X3 : \iota. m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ X0))) (\lambda X3 : \iota. \exists X4. (m1\_subset\_1 X4 (k1\_zfmisc\_1 X0)) \wedge \\ ((X4 \in \text{ReplSep} (\text{toset} (\lambda X5 : \iota. m1\_subset\_1 X5 (k1\_zfmisc\_1 \\ X0))) (\lambda X5 : \iota. X5 \in X1) (\lambda X5 : \iota. k9\_subset\_1 X0 X5 X2)) \wedge \\ (r1\_tarski X4 X3)) (\lambda X3 : \iota. X3)))))) \quad (4) \end{aligned}$$

**Theorem 1**

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ X0)) \Rightarrow (\forall X2. (m1\_card\_fil X2 X0) \Rightarrow (\forall X3. (m1\_subset\_1 \\ X3 (k1\_zfmisc\_1 X0)) \Rightarrow ((X3 \in k2\_card\_fil X0 X2 X1) \Leftrightarrow (\exists X4. ( \\ m1\_subset\_1 X4 (k1\_zfmisc\_1 X0)) \wedge ((X4 \in X2) \wedge (r1\_tarski (k9\_subset\_1 \\ X0 X4 X1) X3))))))) \end{aligned}$$