

## t79\_card\_3

(TMTSLMyLKnw2gzmas4i13xfEYhzdtdNw2Cm)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_funct\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.(X0 \in k8\_card\_3 X1) \Rightarrow (k5\_relat\_1 X0 X2 \in k8\_card\_3 X1))) \quad (1)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow (((X0 \in k4\_card\_3 X1) \wedge (X2 \in k8\_card\_3 X1)) \Rightarrow (k1\_funct\_4 X0 X2 \in k4\_card\_3 X1)))) \quad (2)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (r1\_tarski (k4\_card\_3 X0) (k8\_card\_3 X0)) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \wedge ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_xboole\_0 X1)))) \Rightarrow (k1\_funct\_4 X0 X1 = X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (7)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((\neg v1\_xboole\_0 (k8\_card\_3 X0))\wedge(v4\_funct\_1 (k8\_card\_3 X0))) \quad (8)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(v4\_funct\_1 (k4\_card\_3 X0)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xboole\_0 X0)\wedge(v1\_relat\_1 X0))\Rightarrow((v1\_xboole\_0 (k5\_relat\_1 X0 X1))\wedge(v1\_relat\_1 (k5\_relat\_1 X0 X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X0)\Rightarrow(v1\_relat\_1 (k5\_relat\_1 X0 X1)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\Rightarrow((m1\_subset\_1 X1 X0)\Leftrightarrow (X1 \in X0)))\wedge((v1\_xboole\_0 X0)\Rightarrow((m1\_subset\_1 X1 X0)\Leftrightarrow (v1\_xboole\_0 X1))) \quad (12)$$

Assume the following.

$$\forall X0.(v4\_funct\_1 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 X0)\Rightarrow((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))) \quad (13)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k4\_card\_3 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k4\_card\_3 X0))\Rightarrow(\forall X3.m1\_subset\_1 (k1\_funct\_4 X1 (k5\_relat\_1 X2 X3)) (k4\_card\_3 X0))))$$