

## t52\_card\_3

(TMJdzXRh4AW2PzKuRKMc2eonXy2qkX76LGL)

October 27, 2020

Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k8\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (v1\_relat\_1 X2) \Rightarrow (&((r1\_tarski \\ (k9\_xtuple\_0 X2) X0) \wedge (r1\_tarski (k10\_xtuple\_0 X2) X1)) \Rightarrow (m1\_subset\_1 \\ X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (X1 = \\ k8\_card\_3 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. ((v1\_relat\_1 \\ X3) \wedge (v1\_funct\_1 X3)) \wedge ((X2 = X3) \wedge ((r1\_tarski (k9\_xtuple\_0 X3) \\ (k9\_xtuple\_0 X0)) \wedge (\forall X4. (X4 \in k9\_xtuple\_0 X3) \Rightarrow (k1\_funct\_1 \\ X3 X4 \in k1\_funct\_1 X0 X4))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X1 = k3\_tarski X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X2 \in X3) \wedge (X3 \in X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow (X2 \in X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. (X1 = \\ k10\_xtuple\_0 X0) \Leftrightarrow (\forall X2. (X2 \in X1) \Leftrightarrow (\exists X3. (X3 \in k9\_xtuple\_0 \\ X0) \wedge (X2 = k1\_funct\_1 X0 X3)))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v1\_funct\_1 X1))\Rightarrow((X0 \in k8\_card\_3 X1)\Rightarrow((v1\_funct\_1 X0)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (k9\_xtuple\_0 X1) (k3\_tarski (k10\_xtuple\_0 X1))))))))))$$