

## t21\_card\_3

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k3\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k2\_card\_3 : \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. v1\_relat\_1 (k2\_zfmisc\_1 X0 X1) \tag{1}$$

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 (k2\_card\_3 X0)) \wedge (v1\_funct\_1 (k2\_card\_3 X0))) \tag{2}$$

Assume the following.

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

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (k3\_card\_3 X0 = k3\_tarski (k10\_xtuple\_0 X0)) \tag{4}$$

Assume the following.

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

Assume the following.

$$\forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((X1 = k2\_card\_3 X0) \Leftrightarrow ((k9\_xtuple\_0 X1 = k9\_xtuple\_0 X0) \wedge (\forall X2. (X2 \in k9\_xtuple\_0 X0) \Rightarrow (k1\_funct\_1 X1 X2 = k2\_zfmisc\_1 (k1\_funct\_1 X0 X2) (k1\_tarski X2)))))) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_relat\_1 X0) \Leftrightarrow (\forall X1. \neg(X1 \in X0) \wedge (\forall X2. \forall X3. X1 \neq k4\_tarski X2 X3)) \quad (7)$$

**Theorem 1**

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow (\neg(X0 \in k3\_card\_3 (k2\_card\_3 X1)) \wedge (\forall X2. \forall X3. X0 \neq k4\_tarski X2 X3))$$