

# t23\_card\_1 (TMdLhwTMm- SwZtTZMkEuP4bft5HE2ey5fSy8)

October 27, 2020

Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $r2\_wellord2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \neg(X0 \in X1) \wedge (r1\_tarski X1 X0) \quad (1)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. (v3\_ordinal1 X1) \Rightarrow ((X0 \in X1) \Leftrightarrow (k3\_card\_1 X0 \in k3\_card\_1 X1))) \quad (2)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. (v3\_ordinal1 X1) \Rightarrow ((r1\_ordinal1 X0 X1) \vee (X1 \in X0))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v3\_ordinal1 X0) \wedge (v3\_ordinal1 X1)) \Rightarrow ((r1\_ordinal1 X0 X1) \Leftrightarrow (r1\_tarski X0 X1)) \quad (4)$$

Assume the following.

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (v1\_card\_1 (k3\_card\_1 X0)) \quad (5)$$

Assume the following.

$$\forall X0. (v1\_card\_1 X0) \Leftrightarrow (\exists X1. (v3\_ordinal1 X1) \wedge ((X0 = X1) \wedge (\forall X2. (v3\_ordinal1 X2) \Rightarrow ((r2\_wellord2 X2 X1) \Rightarrow (r1\_ordinal1 X1 X2))))) \quad (6)$$

**Theorem 1**

$$\forall X0. (v3\_ordinal1 X0) \Rightarrow (\forall X1. (v3\_ordinal1 X1) \Rightarrow ((r1\_ordinal1 X0 X1) \Leftrightarrow (r1\_ordinal1 (k3\_card\_1 X0) (k3\_card\_1 X1))))$$