

t3\_topgen\_2

(TMWq5nyjwH3r6MPXKdNq9WRuZ5cbwdceBz8)

October 27, 2020

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

$$\forall X0. (\forall X1. \neg(X1 \in X0) \wedge (\forall X2. \neg(X2 \in X0) \wedge ((r1\_tarski X1 X2) \wedge (v1\_card\_1 X2)))) \Rightarrow (v1\_card\_1 (k3\_tarski X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \quad (2)$$

**Theorem 1**

$$\forall X0. (\forall X1. (X1 \in X0) \Rightarrow (v1\_card\_1 X1)) \Rightarrow (v1\_card\_1 (k3\_tarski X0))$$