

t97\_card\_2  
(TMQ72GYGTKhjXt1XXqYf1KQX8AirW74CtEe)

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Let  $v1\_card\_1 : \iota \Rightarrow o$  be given. Let  $k1\_card\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_card\_1 X0) \Rightarrow (\forall X1.(v1\_card\_1 X1) \Rightarrow (\forall X2. \\ & (v1\_card\_1 X2) \Rightarrow (((X0 \in X1) \vee (r1\_ordinal1 X0 X1)) \Rightarrow ((r1\_ordinal1 \\ & (k1\_card\_2 X2 X0) (k1\_card\_2 X2 X1)) \wedge ((r1\_ordinal1 (k1\_card\_2 \\ & X2 X0) (k1\_card\_2 X1 X2)) \wedge ((r1\_ordinal1 (k1\_card\_2 X0 X2) (k1\_card\_2 \\ & X2 X1)) \wedge (r1\_ordinal1 (k1\_card\_2 X0 X2) (k1\_card\_2 X1 X2)))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1\_card\_1 X0) \Rightarrow (\forall X1.(v1\_card\_1 X1) \Rightarrow ((X0 \in X1) \Leftrightarrow (\neg r1\_ordinal1 X1 X0))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_card\_1 X0) \wedge (v1\_card\_1 X1)) \Rightarrow (v1\_card\_1 (k1\_card\_2 X0 X1)) \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_card\_1 X0) \Rightarrow (\forall X1.(v1\_card\_1 X1) \Rightarrow (\forall X2. \\ & (v1\_card\_1 X2) \Rightarrow ((k1\_card\_2 X0 X1 \in k1\_card\_2 X0 X2) \Rightarrow (X1 \in X2)))) \end{aligned}$$