

t71\_card\_2  
(TMXyu5fiC7N7nJXG81tjfqfW2iJXGJCyuEK)

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Let  $v3\_ordinal1 : \iota \Rightarrow o$  be given. Let  $v7\_ordinal1 : \iota \Rightarrow o$  be given. Let  $k10\_ordinal2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_ordinal1 : \iota \Rightarrow \iota$  be given. Let  $k1\_nat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k4\_card\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k8\_ordinal3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_ordinal1 : \iota$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0.(v7\_ordinal1 X0) \Rightarrow (k4\_card\_1 X0 = k1\_nat\_1 X0 np\_1) \quad (1)$$

Assume the following.

$$\forall X0.(v3\_ordinal1 X0) \Rightarrow (k10\_ordinal2 X0 np\_1 = k1\_ordinal1 X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v3\_ordinal1 X0) \Rightarrow (\forall X1.(v3\_ordinal1 X1) \Rightarrow (\forall X2. \\ (v3\_ordinal1 X2) \Rightarrow (k10\_ordinal2 (k10\_ordinal2 X0 X1) X2 = k10\_ordinal2 \\ X0 (k10\_ordinal2 X1 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v3\_ordinal1 X0) \wedge (v7\_ordinal1 X0)) \wedge \\ ((v3\_ordinal1 X1) \wedge (v7\_ordinal1 X1))) \Rightarrow (k8\_ordinal3 X0 X1 = k10\_ordinal2 \\ X0 X1) \end{aligned} \quad (5)$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(k4\_card\_1\ X0 = k1\_ordinal1\ X0) \quad (7)$$

Assume the following.

$$\forall X0.k1\_ordinal1\ X0 = k2\_xboole\_0\ X0\ (k1\_tarSKI\ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} &\forall X0.\forall X1.(((v3\_ordinal1\ X0)\wedge(v7\_ordinal1\ X0))\wedge \\ &((v3\_ordinal1\ X1)\wedge(v7\_ordinal1\ X1)))\Rightarrow(k8\_ordinal3\ X0\ X1 = k8\_ordinal3 \\ &X1\ X0) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k4\_ordinal1)\Rightarrow(v7\_ordinal1\ X0) \quad (10)$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(v3\_ordinal1\ X0) \quad (11)$$

**Theorem 1**

$$\begin{aligned} &\forall X0.(v3\_ordinal1\ X0)\Rightarrow(\forall X1.(v7\_ordinal1\ X1)\Rightarrow(( \\ &k10\_ordinal2\ X0\ (k1\_ordinal1\ X1) = k10\_ordinal2\ (k1\_ordinal1\ X0) \\ &X1)\wedge(k10\_ordinal2\ X0\ (k1\_nat\_1\ X1\ np\_1) = k10\_ordinal2\ (k1\_ordinal1 \\ &X0\ X1))) \end{aligned}$$