# t27_card_5 (TMKxsekD-dXFHuNP2nbj69UQ7d2nHYYjyFBv)

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Let $v1\_card\_1 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v5\_ordinal1 : \iota \Rightarrow o$ be given. Let $v1\_ordinal2 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_card\_5 : \iota \Rightarrow \iota$ be given. Let $k4\_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k3\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k1\_card\_1 : \iota \Rightarrow \iota$ be given. Let $k3\_ordinal2 : \iota \Rightarrow \iota$ be given. Let $k3\_tarski : \iota \Rightarrow \iota$ be given. Let $v1\_ordinal1 : \iota \Rightarrow o$ be given. Let $v3\_ordinal1 : \iota \Rightarrow o$ be given. Let $r1\_ordinal1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r2\_wellord2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(v1\_card\_1\ X1) \Rightarrow (((r1\_tarski\ X0\ X1) \wedge (k1\_card\_1\ X0 \in k1\_card\_5\ X1)) \Rightarrow ((k3\_ordinal2\ X0 \in X1) \wedge (k3\_tarski\ X0 \in X1))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_ordinal1\ X0) \Rightarrow (\forall X1.(v3\_ordinal1\ X1) \Rightarrow (\forall X2.(v3\_ordinal1\ X2) \Rightarrow (((r1\_tarski\ X0\ X1) \wedge (X1 \in X2)) \Rightarrow (X0 \in X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_ordinal1\ (k1\_card\_1\ X0)\ (k1\_card\_1\ X1)) \Leftrightarrow (\exists X2.((v1\_relat\_1\ X2) \wedge (v1\_funct\_1\ X2)) \wedge ((k9\_xtuple\_0\ X2 = X1) \wedge (r1\_tarski\ X0\ (k10\_xtuple\_0\ X2)))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.r2\_wellord2\ X0\ X0 \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_ordinal1\ X0) \wedge (v3\_ordinal1\ X1)) \Rightarrow ((r1\_ordinal1\ X0\ X1) \Leftrightarrow (r1\_tarski\ X0\ X1)) \tag{6}$$

Assume the following.

$$\forall X0.(v1\_card\_1\ X0) \Rightarrow (v1\_card\_1\ (k1\_card\_5\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.v1\_card\_1\ (k1\_card\_1\ X0) \tag{8}$$

Assume the following.

$$\forall X0.((v5\_ordinal1\ X0) \wedge ((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0))) \Rightarrow (k4\_ordinal2\ X0 = k3\_ordinal2\ (k10\_xtuple\_0\ X0)) \tag{9}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (k3\_card\_3\ X0 = k3\_tarski\ (k10\_xtuple\_0\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_card\_1\ X1) \Rightarrow ((X1 = k1\_card\_1\ X0) \Leftrightarrow (r2\_wellord2\ X0\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.(v3\_ordinal1\ X0) \Rightarrow ((v1\_ordinal1\ X0) \wedge (v2\_ordinal1\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_card\_1\ X0) \Rightarrow (v3\_ordinal1\ X0) \tag{13}$$

**Theorem 1**

$$\forall X0.(v1\_card\_1\ X0) \Rightarrow (\forall X1.(v1\_card\_1\ X1) \Rightarrow (\forall X2.((v1\_relat\_1\ X2) \wedge ((v1\_funct\_1\ X2) \wedge ((v5\_ordinal1\ X2) \wedge (v1\_ordinal2\ X2)))) \Rightarrow (((k9\_xtuple\_0\ X2 = X0) \wedge ((r1\_tarski\ (k10\_xtuple\_0\ X2)\ X1) \wedge (X0 \in k1\_card\_5\ X1))) \Rightarrow ((k4\_ordinal2\ X2 \in X1) \wedge (k3\_card\_3\ X2 \in X1)))))$$