t77_card_3 (TML4pjAX6GB3eMagD4bAnLdmnuNqvgVEkQJ)

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Let $v4\_funct\_1 : \iota \Rightarrow o$ be given. Let $v2\_card\_3 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k10\_card\_3 : \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k5\_card\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X0 \in k4\_card\_3\ X1) \Leftrightarrow ((k9\_xtuple\_0\ X0 = k9\_xtuple\_0\ X1) \wedge (\forall X2.(X2 \in k9\_xtuple\_0\ X1) \Rightarrow (k1\_funct\_1\ X0\ X2 \in k1\_funct\_1\ X1\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (v4\_funct\_1\ X0)) \Rightarrow (\forall X1.\ (X1 \in k9\_xtuple\_0\ (k10\_card\_3\ X0)) \Rightarrow (k1\_funct\_1\ (k10\_card\_3\ X0)\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ X0))\ (\lambda X2 : \iota.\ True)\ (\lambda X2 : \iota.k1\_funct\_1\ X2\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.((v4\_funct\_1\ X0) \wedge (v2\_card\_3\ X0)) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge (v1\_funct\_1\ X1)) \Rightarrow ((X1 \in X0) \Rightarrow (k9\_xtuple\_0\ X1 = k9\_card\_3\ X0))) \tag{5}$$

Assume the following.

$$\forall X0.(v4\_funct\_1\ X0) \Rightarrow ((v1\_relat\_1\ (k10\_card\_3\ X0)) \wedge (v1\_funct\_1\ (k10\_card\_3\ X0))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow (X2 \in X1)) \tag{7}$$

Assume the following.

$$\forall X0.(v4\_funct\_1\ X0)\Leftrightarrow(\forall X1.(X1 \in X0)\Rightarrow((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.(v4\_funct\_1\ X0)\Rightarrow(\forall X1.((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))\Rightarrow((X1 = k10\_card\_3\ X0)\Leftrightarrow((k9\_xtuple\_0\ X1 = k9\_card\_3\ X0)\wedge(\forall X2.(X2 \in k9\_xtuple\_0\ X1)\Rightarrow(k1\_funct\_1\ X1\ X2 = k5\_card\_3\ X2\ X0))))) \tag{9}$$

Theorem 1

$$\forall X0.((v4\_funct\_1\ X0)\wedge(v2\_card\_3\ X0))\Rightarrow(r1\_tarski\ X0\ (k4\_card\_3\ (k10\_card\_3\ X0)))$$