t76_memstr_0 (TMK-mXWdxXv8W9NHEEaZ7Hq2bwqJ7kfdQtDR)

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Let $v1\_setfam\_1 : \iota \Rightarrow o$ be given. Let $v2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $l1\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_card\_3 : \iota \Rightarrow \iota$ be given. Let $k2\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11\_memstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v5\_funct\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_finset\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v4\_funct\_1 : \iota \Rightarrow o$ be given. Let $v2\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1) \Rightarrow ((v1\_xboole\_0\ X1) \vee (X0 \in X1)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0) \wedge ((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)))) \Rightarrow (\forall X2.(m2\_subset\_1\ X2\ X0\ X1) \Leftrightarrow (m1\_subset\_1\ X2\ X1)) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge (v1\_funct\_1\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ (k8\_card\_3\ X0)) \wedge (v4\_funct\_1\ (k8\_card\_3\ X0))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_setfam\_1\ X0) \wedge ((v2\_memstr\_0\ X1\ X0) \wedge (l1\_memstr\_0\ X1\ X0))) \Rightarrow ((v1\_relat\_1\ (k2\_memstr\_0\ X0\ X1)) \wedge ((v2\_relat\_1\ (k2\_memstr\_0\ X0\ X1)) \wedge ((v4\_relat\_1\ (k2\_memstr\_0\ X0\ X1)\ (u1\_struct\_0\ X1)) \wedge ((v1\_funct\_1\ (k2\_memstr\_0\ X0\ X1)) \wedge (v1\_partfun1\ (k2\_memstr\_0\ X0\ X1)\ (u1\_struct\_0\ X1))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_setfam\_1\ X0) \wedge ((v2\_memstr\_0\ X1\ X0) \wedge (l1\_memstr\_0\ X1\ X0))) \Rightarrow (\neg v1\_xboole\_0\ (k11\_memstr\_0\ X0\ X1)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0\ X0)\wedge((\neg v1\_xboole\_0\ X1)\wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ X0\ X1)\Rightarrow(m1\_subset\_1\ X2\ X0)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_setfam\_1\ X0)\wedge((v2\_memstr\_0\ X1\ X0)\wedge (l1\_memstr\_0\ X1\ X0)))\Rightarrow(m1\_subset\_1\ (k11\_memstr\_0\ X0\ X1)\ (k1\_zfmisc\_1\ (k8\_card\_3\ (k2\_memstr\_0\ X0\ X1)))) \tag{7}$$

Assume the following.

$$\forall X0.(\neg v1\_setfam\_1\ X0)\Rightarrow(\forall X1.((v2\_memstr\_0\ X1\ X0)\wedge (l1\_memstr\_0\ X1\ X0))\Rightarrow(k11\_memstr\_0\ X0\ X1 = ReplSep\ (toset\ (\lambda X2 : \iota.m1\_subset\_1\ X2\ (k8\_card\_3\ (k2\_memstr\_0\ X0\ X1))))\ (\lambda X2 : \iota.v1\_finset\_1\ X2)\ (\lambda X2 : \iota.X2))) \tag{8}$$

Assume the following.

$$\forall X0.(v4\_funct\_1\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow((v1\_relat\_1\ X1)\wedge(v1\_funct\_1\ X1))) \tag{9}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(v1\_xboole\_0\ X1)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v4\_relat\_1\ X1\ X0)\wedge(v1\_funct\_1\ X1)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k8\_card\_3\ X1))\Rightarrow (v4\_relat\_1\ X2\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k8\_card\_3\ X0))\Rightarrow(v5\_funct\_1\ X1\ X0)) \tag{12}$$

Theorem 1

$$\forall X0.(\neg v1\_setfam\_1\ X0)\Rightarrow(\forall X1.((v2\_memstr\_0\ X1\ X0)\wedge (l1\_memstr\_0\ X1\ X0))\Rightarrow(\forall X2.(m2\_subset\_1\ X2\ (k8\_card\_3\ (k2\_memstr\_0\ X0\ X1))\ (k11\_memstr\_0\ X0\ X1))\Rightarrow((v1\_relat\_1\ X2)\wedge((v4\_relat\_1\ X2\ (u1\_struct\_0\ X1))\wedge((v1\_funct\_1\ X2)\wedge((v5\_funct\_1\ X2\ (k2\_memstr\_0\ X0\ X1))\wedge(v1\_finset\_1\ X2)))))))$$