t57_cfunct_1 (TMZgAWkpFGzdTyRzaUaAqURsWyrM1KGsxsB)

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Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_numbers : \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k25\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_membered : \iota \Rightarrow o$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_valued\_0 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X1) \Rightarrow (k9\_xtuple\_0\ (k5\_relat\_1\ X1\ X0) = k3\_xboole\_0\ (k9\_xtuple\_0\ X1)\ X0) \tag{1}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k2\_numbers)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k2\_numbers) \Rightarrow ((k1\_relset\_1\ X0\ (k25\_valued\_1\ X0\ k2\_numbers\ X1\ X2) = k1\_relset\_1\ X0\ X1) \wedge (\forall X3.(m1\_subset\_1\ X3\ X0) \Rightarrow ((X3 \in k1\_relset\_1\ X0\ (k25\_valued\_1\ X0\ k2\_numbers\ X1\ X2)) \Rightarrow (k7\_partfun1\ k2\_numbers\ (k25\_valued\_1\ X0\ k2\_numbers\ X1\ X2)\ X3 = k9\_complex1\ X2\ (k7\_partfun1\ k2\_numbers\ X1\ X3)))))))) \tag{2}$$

Assume the following.

$$\forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0\ X1) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ X0)))) \Rightarrow (((k1\_relset\_1\ X1\ X2 = k1\_relset\_1\ X1\ X3) \wedge (\forall X4.(m1\_subset\_1\ X4\ X1) \Rightarrow ((X4 \in k1\_relset\_1\ X1\ X2) \Rightarrow (k7\_partfun1\ X0\ X2\ X4 = k7\_partfun1\ X0\ X3\ X4)))) \Rightarrow (r2\_relset\_1\ X1\ X0\ X2\ X3))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.(\neg v1\_xboole\_0\ X2)\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X1))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X2\ X1))))\Rightarrow((r2\_relset\_1\ X2\ X1\ X3\ (k2\_partfun1\ X2\ X1\ X4\ X0))\Leftrightarrow((k1\_relset\_1\ X2\ X3 = k8\_subset\_1\ X2\ (k1\_relset\_1\ X2\ X4)\ X0)\wedge(\forall X5.(m1\_subset\_1\ X5\ X2)\Rightarrow((X5 \in k1\_relset\_1\ X2\ X3)\Rightarrow(k7\_partfun1\ X1\ X3\ X5 = k7\_partfun1\ X1\ X4\ X5)))))))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow((r2\_relset\_1\ X0\ X1\ X2\ X3)\Rightarrow(r2\_relset\_1\ X0\ X1\ X3\ X2)) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow(k2\_partfun1\ X0\ X1\ X2\ X3 = k5\_relat\_1\ X2\ X3) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered\ X1)\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge(v1\_xcmplx\_0\ X3)))\Rightarrow(k25\_valued\_1\ X0\ X1\ X2\ X3 = k24\_valued\_1\ X2\ X3) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v4\_relat\_1\ X1\ X0))\Rightarrow(k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{8}$$

Assume the following.

$$\neg v1\_xboole\_0\ k2\_numbers \tag{9}$$

Assume the following.

$$v1\_membered\ k2\_numbers \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0)\Rightarrow(v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2)\wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\Rightarrow((v1\_funct\_1\ (k2\_partfun1\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k2\_partfun1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered\ X1)\wedge (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge(v1\_xcmplx\_0\ X3)))\Rightarrow((v1\_funct\_1\ (k25\_valued\_1\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k25\_valued\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k2\_numbers)))) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\wedge(v1\_xcmplx\_0\ X1))\Rightarrow((v1\_relat\_1\ (k24\_valued\_1\ X0\ X1))\wedge (v1\_funct\_1\ (k24\_valued\_1\ X0\ X1))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_valued\_0\ X2)) \tag{18}$$

Assume the following.

$$\forall X0.(v1\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow (v1\_xcmplx\_0\ X1)) \tag{19}$$

Theorem 1

$$\forall X0.\forall X1.(\neg v1\_xboole\_0\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X1\ k2\_numbers))))\Rightarrow (\forall X3.(m1\_subset\_1\ X3\ k2\_numbers)\Rightarrow(r2\_relset\_1\ X1\ k2\_numbers\ (k2\_partfun1\ X1\ k2\_numbers\ (k25\_valued\_1\ X1\ k2\_numbers\ X2\ X3)\ X0)\ (k25\_valued\_1\ X1\ k2\_numbers\ (k2\_partfun1\ X1\ k2\_numbers\ X2\ X0)\ X3))))$$