t11_vectsp_8 (TMVZA-qtUe8cw56uKCTX3gKVyYUNZcRmR2NT)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ 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 $m1\_lattice4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m4\_vectsp\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m3\_vectsp\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \wedge ((\neg v2\_struct\_0\ X1) \wedge ((v10\_lattices\ X1) \wedge (l3\_lattices\ X1)))) \Rightarrow (\forall X2.(m3\_vectsp\_8\ X2\ X0\ X1) \Rightarrow ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0) \wedge ((v10\_lattices\ X0) \wedge (l3\_lattices\ X0))) \wedge ((\neg v2\_struct\_0\ X1) \wedge ((v10\_lattices\ X1) \wedge (l3\_lattices\ X1)))) \Rightarrow (\forall X2.(m1\_lattice4\ X2\ X0\ X1) \Rightarrow ((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))) \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v10\_lattices\ X1)\wedge(l3\_lattices\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((m4\_vectsp\_8\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ (k3\_lattices\ X0\ X3\ X4) = k3\_lattices\ X1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X4)))))))) \tag{3}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v10\_lattices\ X1)\wedge(l3\_lattices\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((m3\_vectsp\_8\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ (k4\_lattices\ X0\ X3\ X4) = k4\_lattices\ X1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X4)))))))) \tag{4}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v10\_lattices\ X1)\wedge(l3\_lattices\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((m1\_lattice4\ X2\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow((k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ (k3\_lattices\ X0\ X3\ X4) = k3\_lattices\ X1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X4))\wedge(k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ (k4\_lattices\ X0\ X3\ X4) = k4\_lattices\ X1\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X3)\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1)\ X2\ X4)))))))) \tag{5}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v10\_lattices\ X0)\wedge(l3\_lattices\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v10\_lattices\ X1)\wedge(l3\_lattices\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X1))))))\Rightarrow((m1\_lattice4\ X2\ X0\ X1)\Leftrightarrow((m4\_vectsp\_8\ X2\ X0\ X1)\wedge(m3\_vectsp\_8\ X2\ X0\ X1)))))$$