l57_afvect0 (TMRw4VKNPn2U6EfPqCgVZGpj5MExJB59re2)

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Let $v7\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_afvect0 : \iota \Rightarrow o$ be given. Let $l1\_analoaf : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k5\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_analoaf : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ 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 $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $g2\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v8\_algstr\_0 : \iota \Rightarrow o$ be given. Let $k3\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $v10\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_afvect0\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0)) \Rightarrow (r2\_analoaf\ X0\ X1\ X2\ (k1\_afvect0\ X0\ X3\ X2)\ (k1\_afvect0\ X0\ X3\ X1))))) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0) \wedge ((v1\_afvect0\ X0) \wedge (l1\_analoaf\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow ((k1\_afvect0\ X0\ X1\ X2 = X2) \Leftrightarrow (X2 = X1) \vee (r1\_afvect0\ X0\ X2\ X1))))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))) \wedge (m1\_subset\_1\ X2\ X0)) \Rightarrow (\forall X3.\forall X4.\forall X5.(g2\_algstr\_0\ X0\ X1\ X2 = g2\_algstr\_0\ X3\ X4\ X5) \Rightarrow ((X0 = X3) \wedge ((X1 = X4) \wedge (X2 = X5)))) \tag{3}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge (l1\_analoaf\ X0)))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v8\_algstr\_0 (k5\_afvect0\ X0\ X1))\wedge(l2\_algstr\_0\ (k5\_afvect0\ X0\ X1))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge (l1\_analoaf\ X0)))\wedge(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)))\Rightarrow((v1\_funct\_1 (k3\_afvect0\ X0\ X1))\wedge((v1\_funct\_2\ (k3\_afvect0\ X0\ X1)\ (k2\_zfmisc\_1 (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1 (k3\_afvect0\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0 X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0 X0)\wedge(l1\_analoaf\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1 X2\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k1\_afvect0\ X0\ X1\ X2)\ (u1\_struct\_0 X0)) \tag{7}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge(l1\_analoaf X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(k5\_afvect0 X0\ X1 = g2\_algstr\_0\ (u1\_struct\_0\ X0)\ (k3\_afvect0\ X0\ X1)\ X1)) \tag{8}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(k4\_struct\_0\ X0 = u2\_struct\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge(l1\_analoaf X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))))))\Rightarrow((X2 = k3\_afvect0\ X0\ X1)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0 X0))\Rightarrow(k5\_binop\_1\ (u1\_struct\_0\ X0)\ X2\ X3\ X4 = k2\_afvect0\ X0\ X1\ X3\ X4)))))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.(m1\_subset\_1\ X4\ (u1\_struct\_0\ X0))\Rightarrow((X4 = k2\_afvect0\ X0\ X1\ X2\ X3)\Leftrightarrow(r2\_analoaf\ X0\ X1\ X2\ X3\ X4))))))) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_algstr\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k1\_algstr\_0\ X0\ X1\ X2 = k5\_binop\_1\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ X1\ X2))) \tag{12}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((v13\_algstr\_0\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(v10\_algstr\_0\ X1\ X0))) \tag{13}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow((v10\_algstr\_0\ X1\ X0)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\wedge(k1\_algstr\_0\ X0\ X1\ X2 = k4\_struct\_0\ X0)))) \tag{14}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((v8\_algstr\_0\ X0)\Rightarrow(X0 = g2\_algstr\_0\ (u1\_struct\_0\ X0)\ (u1\_algstr\_0\ X0)\ (u2\_struct\_0\ X0))) \tag{15}$$

Theorem 1

$$\forall X0.((\neg v7\_struct\_0\ X0)\wedge((v1\_afvect0\ X0)\wedge(l1\_analoaf\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(v13\_algstr\_0\ (k5\_afvect0\ X0\ X1)))$$