

156\_afvect0 (TM-  
bRg1N7VofAdzQpNsgdN2EzRL5P8H4kMPQ)

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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  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k5\_afvect0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned} \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_afvect0 X0) \wedge (l1\_analoaf X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (k1\_algstr\_0 \\ (k5\_afvect0 X0 X1) X2 (k4\_struct\_0 (k5\_afvect0 X0 X1)) = X2))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_afvect0 X0) \wedge (l1\_analoaf X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (\forall X4. \\ (m1\_subset\_1 X4 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (k1\_algstr\_0 \\ (k5\_afvect0 X0 X1) (k1\_algstr\_0 (k5\_afvect0 X0 X1) X2 X3) X4 = k1\_algstr\_0 \\ (k5\_afvect0 X0 X1) X2 (k1\_algstr\_0 (k5\_afvect0 X0 X1) X3 X4)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v7\_struct\_0 X0) \wedge ((v1\_afvect0 X0) \wedge (l1\_analoaf X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 (k5\_afvect0 X0 X1))) \Rightarrow (k1\_algstr\_0 \\ (k5\_afvect0 X0 X1) X2 X3 = k1\_algstr\_0 (k5\_afvect0 X0 X1) X3 X2)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (4)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.(l2\_algstr\_0 X0)\Rightarrow((v4\_rlvect\_1 X0)\Leftrightarrow(\forall X1.( \\ m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k1\_algstr\_0 X0 X1 (k4\_struct\_0 \\ X0) = X1))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_algstr\_0 X0)\Rightarrow((v3\_rlvect\_1 X0)\Leftrightarrow(\forall X1.( \\ m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 \\ (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow \\ (k1\_algstr\_0 X0 (k1\_algstr\_0 X0 X1 X2) X3 = k1\_algstr\_0 X0 X1 (k1\_algstr\_0 \\ X0 X2 X3)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_algstr\_0 X0)\Rightarrow((v2\_rlvect\_1 X0)\Leftrightarrow(\forall X1.( \\ m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(\forall X2.(m1\_subset\_1 X2 \\ (u1\_struct\_0 X0))\Rightarrow(k1\_algstr\_0 X0 X1 X2 = k1\_algstr\_0 X0 X2 X1)))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} \forall X0.(((\neg v7\_struct\_0 X0)\wedge((v1\_afvect0 X0)\wedge(l1\_analoaf \\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow((v2\_rlvect\_1 \\ (k5\_afvect0 X0 X1))\wedge((v3\_rlvect\_1 (k5\_afvect0 X0 X1))\wedge(v4\_rlvect\_1 \\ (k5\_afvect0 X0 X1)))))) \end{aligned}$$