

t8\_algstr\_1 (TMPZZM-  
sQxmYHG7tnjS36KF9fNGakwUBHZob)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l2\_algstr\_0 X0)) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Leftrightarrow ((\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 X0 X1 (k4\_struct\_0 X0) = X1)) \wedge ((\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\exists X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \wedge (k1\_algstr\_0 X0 X1 X2 = k4\_struct\_0 X0))) \wedge (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 X0 (k1\_algstr\_0 X0 X1 X2) X3 = k1\_algstr\_0 X0 X1 (k1\_algstr\_0 X0 X2 X3))))))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (l1\_algstr\_0 X0) \Rightarrow ((v2\_rlvect\_1 X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 X0 X1 X2 = k1\_algstr\_0 X0 X2 X1))))))
 \end{aligned} \tag{3}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_algstr\_0 X0)) \Rightarrow (((\neg v2\_struct\_0 \\ & X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Leftrightarrow ((\forall X1.(m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 X0 X1 (k4\_struct\_0 X0) = X1)) \wedge \\ & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\exists X2.( \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0)) \wedge (k1\_algstr\_0 X0 X1 X2 = k4\_struct\_0 \\ & X0))) \wedge ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ & (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 X0 (k1\_algstr\_0 X0 X1 X2) X3 = k1\_algstr\_0 \\ & X0 X1 (k1\_algstr\_0 X0 X2 X3)))))) \wedge (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_0 \\ & X0 X1 X2 = k1\_algstr\_0 X0 X2 X1)))))) \end{aligned}$$