

## t8\_algstr\_2

(TMZEz6JNV85QNcWYzrkAtgRpDeicdWUPJt)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_algstr\_1 : \iota \Rightarrow o$  be given. Let  $v4\_algstr\_1 : \iota \Rightarrow o$  be given. Let  $v7\_algstr\_1 : \iota \Rightarrow o$  be given. Let  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v2\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_algstr\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_algstr\_1 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v2\_algstr\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v1\_algstr\_1 X0) \wedge ((v4\_algstr\_1 \\ X0) \wedge ((v7\_algstr\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_vectsp\_1 X0) \wedge \\ ((v4\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (k6\_algstr\_0 X0 (k1\_algstr\_2 X0 X1) X2 = k1\_algstr\_2 X0 (k6\_algstr\_0 \\ X0 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v5\_algstr\_0 X0) \wedge ((v3\_algstr\_1 \\ X0) \wedge ((v2\_rlvect\_1 X0) \wedge (l2\_algstr\_0 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (k1\_algstr\_2 X0 (k1\_algstr\_2 X0 X1) = X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. (l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0. (l5\_algstr\_0 X0) \Rightarrow ((l4\_algstr\_0 X0) \wedge (l4\_struct\_0 X0)) \tag{4}$$

Assume the following.

$$\forall X0. (l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l3\_struct\_0 X0) \Rightarrow (m1\_subset\_1 (k5\_struct\_0 X0) (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0) \wedge ((v5\_algstr\_0 X0) \wedge ((v3\_algstr\_1 X0) \wedge (l2\_algstr\_0 X0)))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k1\_algstr\_2 X0 X1) (u1\_struct\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l4\_algstr\_0 X0)) \Rightarrow ((v4\_vectsp\_1 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow ((k6\_algstr\_0 X0 X1 (k5\_struct\_0 X0) = X1) \wedge (k6\_algstr\_0 X0 (k5\_struct\_0 X0) X1 = X1))) \quad (8)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v4\_algstr\_1 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v5\_algstr\_0 X0) \wedge ((v6\_algstr\_0 X0) \wedge ((v2\_algstr\_1 X0) \wedge (v3\_algstr\_1 X0)))))) \quad (9)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v1\_algstr\_1 X0) \wedge ((v4\_algstr\_1 X0) \wedge ((v7\_algstr\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v2\_vectsp\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (k6\_algstr\_0 X0 (k1\_algstr\_2 X0 (k5\_struct\_0 X0)) (k1\_algstr\_2 X0 (k5\_struct\_0 X0)) = k5\_struct\_0 X0)$$