

t11\_vectsp\_2  
(TMSn6fdHsMHow5zSjGFekip4ff6XBMK95c3)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v33\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  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  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k11\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_group\_1 : \iota \Rightarrow \iota$  be given. Let  $l4\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l4\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l3\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v6\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v3\_vectsp\_1 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge \\ & ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow ((X1 \neq k4\_struct\_0 X0) \Rightarrow ((k6\_algstr\_0 X0 X1 ( \\ & k11\_algstr\_0 X0 X1) = k5\_struct\_0 X0) \wedge (k6\_algstr\_0 X0 (k11\_algstr\_0 \\ & X0 X1) X1 = k5\_struct\_0 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge \\ & ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ & ((k6\_algstr\_0 X0 X1 X2 = k1\_group\_1 X0) \Rightarrow ((X2 = k11\_algstr\_0 X0 X1) \wedge \\ & (X1 = k11\_algstr\_0 X0 X2)))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v4\_vectsp\_1 X0) \wedge (l4\_algstr\_0 X0))) \Rightarrow (k1\_group\_1 X0 = k5\_struct\_0 X0) \tag{3}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (4)$$

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$$\forall X0.(l5\_algstr\_0 X0) \Rightarrow ((l4\_algstr\_0 X0) \wedge (l4\_struct\_0 X0)) \quad (5)$$

Assume the following.

$$\forall X0.(l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l3\_algstr\_0 X0) \wedge ((m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ & (k6\_algstr\_0 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((l5\_algstr\_0 X0) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 (k11\_algstr\_0 X0 X1) (u1\_struct\_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l4\_algstr\_0 X0)) \Rightarrow ((v6\_vectsp\_1 X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (k6\_algstr\_0 X0 (k5\_struct\_0 X0) X1 = X1))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3\_algstr\_0 X0) \Rightarrow ((v3\_group\_1 X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k6\_algstr\_0 \\ & X0 (k6\_algstr\_0 X0 X1 X2) X3 = k6\_algstr\_0 X0 X1 (k6\_algstr\_0 X0 X2 \\ & X3)))))) \end{aligned} \quad (10)$$

Assume the following.

$$\forall X0. (l4\_algstr\_0 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v4\_vectsp\_1 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v3\_vectsp\_1 X0) \wedge (v6\_vectsp\_1 X0)))) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. (((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge \\ & ((v5\_vectsp\_1 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ & (\neg (X1 \neq k4\_struct\_0 X0) \wedge ((X2 \neq k4\_struct\_0 X0) \wedge (k6\_algstr\_0 X0 \\ & (k11\_algstr\_0 X0 X1) (k11\_algstr\_0 X0 X2) \neq k11\_algstr\_0 X0 (k6\_algstr\_0 \\ & X0 X2 X1)))))) \end{aligned}$$