

## t1\_vectsp\_6

(TMU4HM9Mnpo6ZyLJCabRsUqFrnN6kBS7Wmm)

October 27, 2020

Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v13\_algstr\_0 : \iota \Rightarrow o$  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  $v8\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v9\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v10\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v11\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_vectsp\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_vectsp\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_vectsp\_6 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l5\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $l2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \quad (1)$$

Assume the following.

$$\forall X0.(l2\_algstr\_0 X0) \Rightarrow ((l2\_struct\_0 X0) \wedge (l1\_algstr\_0 X0)) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l2\_struct\_0 X0)) \Rightarrow (\forall X1. \\ & ((\neg v2\_struct\_0 X1) \wedge (l1\_vectsp\_1 X1 X0)) \Rightarrow (\forall X2.(m1\_vectsp\_6 \\ & X2 X0 X1) \Rightarrow (k1\_vectsp\_6 X0 X1 X2 = \text{ReplSep} (\text{toset} (\lambda X3 : \iota.m1\_subset\_1 \\ & X3 (u1\_struct\_0 X1))) (\lambda X3 : \iota.k3\_funct\_2 (u1\_struct\_0 X1) \\ & (u1\_struct\_0 X0) X2 X3 \neq k4\_struct\_0 X0) (\lambda X3 : \iota.X3)))) \end{aligned} \quad (3)$$

**Theorem 1**

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge \\ & ((v3\_group\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge ((v5\_vectsp\_1 X1) \wedge ((v2\_rlvect\_1 \\ & X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 X1) \wedge (l6\_algstr\_0 X1)))))))))) \Rightarrow \\ & (\forall X2. ((\neg v2\_struct\_0 X2) \wedge ((v13\_algstr\_0 X2) \wedge ((v8\_vectsp\_1 \\ & X2 X1) \wedge ((v9\_vectsp\_1 X2 X1) \wedge ((v10\_vectsp\_1 X2 X1) \wedge ((v11\_vectsp\_1 \\ & X2 X1) \wedge ((v2\_rlvect\_1 X2) \wedge ((v3\_rlvect\_1 X2) \wedge ((v4\_rlvect\_1 X2) \wedge \\ & (l1\_vectsp\_1 X2 X1)))))))))) \Rightarrow (\forall X3. (m1\_vectsp\_6 X3 X1 X2) \Rightarrow \\ & ((X0 \in k1\_vectsp\_6 X1 X2 X3) \Leftrightarrow (\exists X4. (m1\_subset\_1 X4 (u1\_struct\_0 \\ & X2)) \wedge ((X0 = X4) \wedge (k3\_funct\_2 (u1\_struct\_0 X2) (u1\_struct\_0 X1) \\ & X3 X4 \neq k4\_struct\_0 X1)))))) \end{aligned}$$