

## t26\_weddwitt

(TMXm5B2CUxYe5uk1MWGU3hdWwCBpgg8cTPv)

October 27, 2020

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  $v2\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v4\_rlvect\_1 : \iota \Rightarrow o$  be given. Let  $v3\_group\_1 : \iota \Rightarrow o$  be given. Let  $v4\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $v5\_vectsp\_1 : \iota \Rightarrow o$  be given. Let  $l6\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_weddwitt : \iota \Rightarrow \iota$  be given. Let  $k5\_weddwitt : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_algstr\_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  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  $v36\_algstr\_0 : \iota \Rightarrow o$  be given. Let  $v5\_group\_1 : \iota \Rightarrow o$  be given. Let  $u1\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_realset1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u2\_algstr\_0 : \iota \Rightarrow \iota$  be given. Let  $k4\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_struct\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ & ((X2 \in u1\_struct\_0 (k5\_weddwitt X0 X1)) \Leftrightarrow (k6\_algstr\_0 X0 X2 X1 = k6\_algstr\_0 \\ & X0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. (l6\_algstr\_0 X0) \Rightarrow ((l2\_algstr\_0 X0) \wedge (l5\_algstr\_0 X0)) \tag{2}$$

Assume the following.

$$\forall X0. (l5\_algstr\_0 X0) \Rightarrow ((l4\_algstr\_0 X0) \wedge (l4\_struct\_0 X0)) \tag{3}$$

Assume the following.

$$\forall X0. (l4\_algstr\_0 X0) \Rightarrow ((l3\_struct\_0 X0) \wedge (l3\_algstr\_0 X0)) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((l3\_algstr\_0 X0) \wedge ((m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (m1\_subset\_1 \\ & (k6\_algstr\_0 X0 X1 X2) (u1\_struct\_0 X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow ((\neg v2\_struct\_0 (k4\_wedd Witt \\ & X0)) \wedge ((\neg v6\_struct\_0 (k4\_wedd Witt X0)) \wedge ((v13\_algstr\_0 (k4\_wedd Witt \\ & X0)) \wedge ((v33\_algstr\_0 (k4\_wedd Witt X0)) \wedge ((v36\_algstr\_0 (k4\_wedd Witt \\ & X0)) \wedge ((v2\_rlvect\_1 (k4\_wedd Witt X0)) \wedge ((v3\_rlvect\_1 (k4\_wedd Witt \\ & X0)) \wedge ((v4\_rlvect\_1 (k4\_wedd Witt X0)) \wedge ((v3\_group\_1 (k4\_wedd Witt \\ & X0)) \wedge ((v5\_group\_1 (k4\_wedd Witt X0)) \wedge ((v4\_vectsp\_1 (k4\_wedd Witt \\ & X0)) \wedge ((v5\_vectsp\_1 (k4\_wedd Witt X0)) \wedge (l6\_algstr\_0 (k4\_wedd Witt \\ & X0))))))))))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 \\ & X1) \wedge ((\neg v6\_struct\_0 X1) \wedge ((v13\_algstr\_0 X1) \wedge ((v33\_algstr\_0 X1) \wedge \\ & ((v36\_algstr\_0 X1) \wedge ((v2\_rlvect\_1 X1) \wedge ((v3\_rlvect\_1 X1) \wedge ((v4\_rlvect\_1 \\ & X1) \wedge ((v3\_group\_1 X1) \wedge ((v5\_group\_1 X1) \wedge ((v4\_vectsp\_1 X1) \wedge (( \\ & v5\_vectsp\_1 X1) \wedge (l6\_algstr\_0 X1)))))))))) \Rightarrow ((X1 = k4\_wedd Witt \\ & X0) \Leftrightarrow ((u1\_struct\_0 X1 = \text{ReplSep} (\text{toset} (\lambda X2 : \iota. m1\_subset\_1 \\ & X2 (u1\_struct\_0 X0))) (\lambda X2 : \iota. \forall X3. (m1\_subset\_1 X3 \\ & (u1\_struct\_0 X0)) \Rightarrow (k6\_algstr\_0 X0 X2 X3 = k6\_algstr\_0 X0 X3 X2)) \\ & (\lambda X2 : \iota. X2)) \wedge ((u1\_algstr\_0 X1 = k1\_realset1 (u1\_algstr\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge ((u2\_algstr\_0 X1 = k1\_realset1 (u2\_algstr\_0 \\ & X0) (u1\_struct\_0 X1)) \wedge ((k4\_struct\_0 X1 = k4\_struct\_0 X0) \wedge (k5\_struct\_0 \\ & X1 = k5\_struct\_0 X0))))))))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. (l3\_algstr\_0 X0) \Rightarrow ((v3\_group\_1 X0) \Leftrightarrow (\forall X1. (m1\_subset\_1 \\ & X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k6\_algstr\_0 \\ & X0 (k6\_algstr\_0 X0 X1 X2) X3 = k6\_algstr\_0 X0 X1 (k6\_algstr\_0 X0 X2 \\ & X3)))))) \end{aligned} \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((\neg v6\_struct\_0 X0) \wedge ((v13\_algstr\_0 \\ & X0) \wedge ((v33\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 X0) \wedge \\ & ((v4\_rlvect\_1 X0) \wedge ((v3\_group\_1 X0) \wedge ((v4\_vectsp\_1 X0) \wedge ((v5\_vectsp\_1 \\ & X0) \wedge (l6\_algstr\_0 X0)))))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 \\ & (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((X2 \in u1\_struct\_0 \\ & (k4\_weddwitt X0)) \wedge (X3 \in u1\_struct\_0 (k5\_weddwitt X0 X1))) \Rightarrow (k6\_algstr\_0 \\ & X0 X2 X3 \in u1\_struct\_0 (k5\_weddwitt X0 X1)))))) \end{aligned}$$