

## t39\_waybel\_9

(TMX3uL3bELXqpGpKNT5gpbpbq3FvoS2CtTs)

October 27, 2020

Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v8\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_lattice3 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v1\_compts\_1 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k4\_waybel\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v7\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v11\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r2\_waybel\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_waybel\_9 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_yellow\_6 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r3\_waybel\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc X0) \wedge ((v3\_orders\_2 \\
 & X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge \\
 & ((v2\_lattice3 X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_waybel\_9 X0)))))))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(( \\
 & \neg v2\_struct\_0 X2) \wedge ((v4\_orders\_2 X2) \wedge ((v7\_waybel\_0 X2) \wedge (l1\_waybel\_0 \\
 & X2 X0)))) \Rightarrow (((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (v5\_pre\_topc \\
 & (k4\_waybel\_1 X0 X3) X0 X0)) \wedge ((v11\_waybel\_0 X2 X0) \wedge (r3\_waybel\_9 \\
 & X0 X2 X1))) \Rightarrow (X1 = k1\_waybel\_9 X0 X2))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc \\
 & X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow (\forall X1.((\neg \\
 & v2\_struct\_0 X1) \wedge ((v4\_orders\_2 X1) \wedge ((v7\_waybel\_0 X1) \wedge (l1\_waybel\_0 \\
 & X1 X0)))) \Rightarrow ((\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
 & (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((r3\_waybel\_9 X0 X1 X2) \wedge (r3\_waybel\_9 \\
 & X0 X1 X3)) \Rightarrow (X2 = X3)))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\
 & X0)) \Rightarrow ((r3\_waybel\_9 X0 X1 X2) \Rightarrow (X2 \in k10\_yellow\_6 X0 X1))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc \\ X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_pre\_topc X0)))))) \Rightarrow (\forall X1.((\neg \\ v2\_struct\_0 X1) \wedge ((v4\_orders\_2 X1) \wedge ((v7\_waybel\_0 X1) \wedge (l1\_waybel\_0 \\ X1 X0)))))) \Rightarrow (\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \wedge (r3\_waybel\_9 \\ X0 X1 X2)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ (r2\_yellow\_0 X0 X1) \Leftrightarrow (\exists X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \wedge ((r1\_lattice3 X0 X1 X2) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\ X0)) \Rightarrow ((r1\_lattice3 X0 X1 X3) \Rightarrow (r1\_orders\_2 X0 X3 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc X0) \wedge ((v3\_orders\_2 \\ X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge \\ ((v2\_lattice3 X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_waybel\_9 X0)))))))))) \Rightarrow \\ (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v4\_orders\_2 X1) \wedge ((v7\_waybel\_0 \\ X1) \wedge (l1\_waybel\_0 X1 X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((X2 = X3) \wedge \\ ((\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (v5\_pre\_topc \\ (k4\_waybel\_1 X0 X4) X0 X0)) \wedge (r3\_waybel\_9 X0 X1 X2)))))) \Rightarrow (\forall X4. \\ (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow ((r1\_lattice3 X0 (k2\_relset\_1 \\ (u1\_struct\_0 X0) (u1\_waybel\_0 X0 X1)) X4) \Rightarrow (r1\_orders\_2 X0 X4 X3)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc X0) \wedge ((v3\_orders\_2 \\ X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge \\ ((v2\_lattice3 X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_waybel\_9 X0)))))))))) \Rightarrow \\ (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v4\_orders\_2 X1) \wedge ((v7\_waybel\_0 \\ X1) \wedge (l1\_waybel\_0 X1 X0)))))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (((X2 = X3) \wedge \\ ((\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (v5\_pre\_topc \\ (k4\_waybel\_1 X0 X4) X0 X0)) \wedge ((v11\_waybel\_0 X1 X0) \wedge (r3\_waybel\_9 \\ X0 X1 X2)))))) \Rightarrow (r1\_lattice3 X0 (k2\_relset\_1 (u1\_struct\_0 X0) (u1\_waybel\_0 \\ X0 X1)) X3)))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0) \Rightarrow ((l1\_pre\_topc X0) \wedge (l1\_orders\_2 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(l1\_waybel\_0 X1 X0) \Rightarrow \\ ((r2\_waybel\_9 X0 X1) \Leftrightarrow (r2\_yellow\_0 X0 (k2\_relset\_1 (u1\_struct\_0 \\ X0) (u1\_waybel\_0 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge ((v8\_pre\_topc X0) \wedge ((v3\_orders\_2 \\ & X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge \\ & ((v2\_lattice3 X0) \wedge ((v1\_compts\_1 X0) \wedge (l1\_waybel\_9 X0)))))))) \Rightarrow \\ & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (v5\_pre\_topc \\ & (k4\_waybel\_1 X0 X1) X0 X0)) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge (( \\ & v4\_orders\_2 X1) \wedge ((v7\_waybel\_0 X1) \wedge (l1\_waybel\_0 X1 X0)))) \Rightarrow (( \\ & v11\_waybel\_0 X1 X0) \Rightarrow ((r2\_waybel\_9 X0 X1) \wedge (k1\_waybel\_9 X0 X1 \in k10\_yellow\_6 \\ & X0 X1)))))) \end{aligned}$$