

## t41\_waybel14

(TMT7GrtsMDbF2L5qRAnsmP7VFAJ2pXRukwM)

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Let  $v2\_pre\_topc : \iota \Rightarrow o$  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  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $v4\_waybel11 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $v1\_waybel\_5 : \iota \Rightarrow o$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $k5\_waybel11 : \iota \Rightarrow \iota$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $k7\_lattice3 : \iota \Rightarrow \iota$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v2\_waybel\_1 : \iota \Rightarrow o$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v7\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (& (v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\ & (l1\_orders\_2 X0)))))) \Rightarrow ((v1\_waybel\_5 X0) \Leftrightarrow ((v2\_waybel\_1 X0) \wedge \\ & ((v3\_waybel\_3 X0) \wedge (v3\_waybel\_3 (k7\_lattice3 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (v2\_pre\_topc X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\ & ((v3\_lattice3 X0) \wedge ((v4\_waybel11 X0) \wedge (l1\_waybel\_9 X0)))))))) \Rightarrow \\ & (k5\_waybel11 X0 = u1\_pre\_topc X0) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow ((\neg v7\_struct\_0 (k2\_yellow\_1 (u1\_pre\_topc X0))) \wedge ((v1\_orders\_2 \\ & (k2\_yellow\_1 (u1\_pre\_topc X0))) \wedge (v3\_lattice3 (k2\_yellow\_1 ( \\ & u1\_pre\_topc X0)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow ((\neg v2\_struct\_0 (k2\_yellow\_1 X0)) \wedge \\ (v1\_orders\_2 (k2\_yellow\_1 X0))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v3\_orders\_2 (k2\_yellow\_1 X0)) \wedge ((v4\_orders\_2 (k2\_yellow\_1 X0)) \wedge (v5\_orders\_2 (k2\_yellow\_1 X0)))) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \Rightarrow ((v1\_orders\_2 (k2\_yellow\_1 (u1\_pre\_topc X0))) \wedge (v2\_waybel\_1 (k2\_yellow\_1 (u1\_pre\_topc X0)))) \quad (6)$$

Assume the following.

$$\forall X0.((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\neg v1\_xboole\_0 (u1\_pre\_topc X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0) \Rightarrow ((l1\_pre\_topc X0) \wedge (l1\_orders\_2 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(v1\_orders\_2 (k2\_yellow\_1 X0)) \wedge (l1\_orders\_2 (k2\_yellow\_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v3\_lattice3 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (v2\_lattice3 X0)))) \quad (10)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (11)$$

**Theorem 1**

$$\forall X0.((v2\_pre\_topc X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge ((v4\_waybel11 X0) \wedge (l1\_waybel\_9 X0)))))))))) \Rightarrow ((v1\_waybel\_5 (k2\_yellow\_1 (k5\_waybel11 X0))) \Leftrightarrow ((v3\_waybel\_3 (k2\_yellow\_1 (k5\_waybel11 X0))) \wedge (v3\_waybel\_3 (k7\_lattice3 (k2\_yellow\_1 (k5\_waybel11 X0))))))$$