

## t22\_waybel26

(TMYaaJw8T6iKbRmPTZ3jZw7cSdhap4R8Vwt)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v6\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v1\_waybel25 : \iota \Rightarrow o$  be given. Let  $m1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_borsuk\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $k1\_waybel26 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  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  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r3\_yellow16 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v1\_monoid\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\ & ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 \\ & X1) \wedge ((v3\_orders\_2 X1) \wedge ((v4\_orders\_2 X1) \wedge ((v5\_orders\_2 X1) \wedge \\ & (l1\_orders\_2 X1)))))) \Rightarrow ((r3\_yellow16 X1 X0) \Rightarrow (v3\_waybel\_3 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge ((v5\_orders\_2 X0) \wedge ((v3\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v3\_orders\_2 X1) \wedge ((v4\_orders\_2 \\ & X1) \wedge ((v5\_orders\_2 X1) \wedge (l1\_orders\_2 X1)))))) \Rightarrow ((r3\_yellow16 X1 \\ & X0) \Rightarrow (v3\_lattice3 X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge ((v6\_pre\_topc \\ & X1) \wedge ((v1\_waybel25 X1) \wedge (l1\_pre\_topc X1)))))) \Rightarrow (\forall X2.((\neg \\ & v2\_struct\_0 X2) \wedge (m1\_pre\_topc X2 X1)) \Rightarrow ((r1\_borsuk\_1 X1 X2) \Rightarrow (r3\_yellow16 \\ & (k1\_waybel26 X0 X2) (k1\_waybel26 X0 X1)))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge \\ (l1\_pre\_topc X0)))\wedge((\neg v2\_struct\_0 X1)\wedge((v2\_pre\_topc X1)\wedge(( \\ v6\_pre\_topc X1)\wedge(l1\_pre\_topc X1))))))\Rightarrow((\neg v2\_struct\_0 (k1\_waybel26 \\ X0 X1))\wedge((v1\_orders\_2 (k1\_waybel26 X0 X1))\wedge(v5\_orders\_2 (k1\_waybel26 \\ X0 X1)))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge \\ (l1\_pre\_topc X0)))\wedge((\neg v2\_struct\_0 X1)\wedge((v2\_pre\_topc X1)\wedge(l1\_pre\_topc \\ X1))))\Rightarrow((\neg v2\_struct\_0 (k1\_waybel26 X0 X1))\wedge((v1\_monoid\_0 (k1\_waybel26 \\ X0 X1))\wedge((v1\_orders\_2 (k1\_waybel26 X0 X1))\wedge((v3\_orders\_2 (k1\_waybel26 \\ X0 X1))\wedge(v4\_orders\_2 (k1\_waybel26 X0 X1)))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(\forall X1.(m1\_pre\_topc X1 X0)\Rightarrow (l1\_pre\_topc X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge \\ (l1\_pre\_topc X0)))\wedge((\neg v2\_struct\_0 X1)\wedge((v2\_pre\_topc X1)\wedge(l1\_pre\_topc \\ X1))))\Rightarrow((\neg v2\_struct\_0 (k1\_waybel26 X0 X1))\wedge((v1\_orders\_2 (k1\_waybel26 \\ X0 X1))\wedge(l1\_orders\_2 (k1\_waybel26 X0 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(((\neg v2\_struct\_0 X0)\wedge(v3\_lattice3 X0))\Rightarrow((\neg v2\_struct\_0 X0)\wedge((v1\_lattice3 X0)\wedge(v2\_lattice3 X0)))) \quad (8)$$

Assume the following.

$$\forall X0.((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0))\Rightarrow(\forall X1. (m1\_pre\_topc X1 X0)\Rightarrow(v2\_pre\_topc X1)) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge((v6\_pre\_topc X0)\wedge(l1\_pre\_topc X0))))\Rightarrow(\forall X1.(m1\_pre\_topc X1 X0)\Rightarrow((\neg v2\_struct\_0 X1)\Rightarrow((\neg v2\_struct\_0 X1)\wedge(v6\_pre\_topc X1)))) \quad (10)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge(l1\_pre\_topc \\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_pre\_topc X1)\wedge((v6\_pre\_topc \\ X1)\wedge((v1\_waybel25 X1)\wedge(l1\_pre\_topc X1))))))\Rightarrow(\forall X2.((\neg \\ v2\_struct\_0 X2)\wedge(m1\_pre\_topc X2 X1))\Rightarrow(((r1\_borsuk\_1 X1 X2)\wedge( \\ (v3\_lattice3 (k1\_waybel26 X0 X1))\wedge(v3\_waybel\_3 (k1\_waybel26 \\ X0 X1))))\Rightarrow((v3\_lattice3 (k1\_waybel26 X0 X2))\wedge(v3\_waybel\_3 (k1\_waybel26 \\ X0 X2)))))) \end{aligned}$$