

# t7\_waybel26 (TMLLvHh- scXaPzmTRYCEG2NVRzJmDRo3D5wx)

October 27, 2020

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  $v24\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $k1\_waybel26 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_waybel24 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_waybel25 : \iota \Rightarrow \iota$  be given. Let  $k6\_yellow\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_monoid\_0 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v4\_yellow\_0 X1 X0) \wedge ((v4\_waybel\_0 \\ & X1 X0) \wedge (m1\_yellow\_0 X1 X0)))) \Rightarrow (v24\_waybel\_0 X1)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\ & X0))) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge ((v6\_pre\_topc \\ & X1) \wedge ((v1\_waybel25 X1) \wedge (l1\_pre\_topc X1)))))) \Rightarrow ((v4\_waybel\_0 ( \\ & k3\_waybel24 X0 (k1\_waybel25 X1)) (k6\_yellow\_1 (u1\_struct\_0 X0) \\ & (k1\_waybel25 X1))) \wedge (m1\_yellow\_0 (k3\_waybel24 X0 (k1\_waybel25 \\ & X1)) (k6\_yellow\_1 (u1\_struct\_0 X0) (k1\_waybel25 X1)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge ((v6\_pre\_topc \\ & X0) \wedge (l1\_pre\_topc X0)))) \Rightarrow ((v5\_orders\_2 (k1\_waybel25 X0)) \wedge (v1\_waybel\_9 \\ & (k1\_waybel25 X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow((v4\_orders\_2\ (k1\_waybel25\ X0))\wedge (v1\_waybel\_9\ (k1\_waybel25\ X0))) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow((v3\_orders\_2\ (k1\_waybel25\ X0))\wedge (v1\_waybel\_9\ (k1\_waybel25\ X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v3\_orders\_2\ X0)\wedge ((v4\_orders\_2\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v24\_waybel\_0\ X0)\wedge(l1\_orders\_2\ X0))))))\wedge(\neg v1\_xboole\_0\ X1))\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X1\ X0))\wedge (v24\_waybel\_0\ (k6\_yellow\_1\ X1\ X0))) \quad (6)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow((\neg v2\_struct\_0\ (k1\_waybel25\ X0))\wedge(v1\_waybel\_9\ (k1\_waybel25\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge (l1\_pre\_topc\ X0)))\wedge((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))))\Rightarrow((\neg v2\_struct\_0\ (k1\_waybel26\ X0\ X1))\wedge((v1\_monoid\_0\ (k1\_waybel26\ X0\ X1))\wedge((v1\_orders\_2\ (k1\_waybel26\ X0\ X1))\wedge((v3\_orders\_2\ (k1\_waybel26\ X0\ X1))\wedge(v4\_orders\_2\ (k1\_waybel26\ X0\ X1)))))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v5\_orders\_2\ X1)\wedge (l1\_orders\_2\ X1)))\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))\wedge(v5\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v4\_orders\_2\ X1)\wedge (l1\_orders\_2\ X1)))\Rightarrow((v1\_orders\_2\ (k6\_yellow\_1\ X0\ X1))\wedge(v4\_orders\_2\ (k6\_yellow\_1\ X0\ X1))) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge((v6\_pre\_topc\ X0)\wedge((v1\_waybel25\ X0)\wedge(l1\_pre\_topc\ X0))))\Rightarrow((v24\_waybel\_0\ (k1\_waybel25\ X0))\wedge(v1\_waybel\_9\ (k1\_waybel25\ X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge((v3\_orders\_2 X1)\wedge(l1\_orders\_2 X1)))\Rightarrow((v1\_orders\_2 (k6\_yellow\_1 X0 X1))\wedge(v3\_orders\_2 (k6\_yellow\_1 X0 X1))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v2\_struct\_0 X1)\wedge(l1\_orders\_2 X1))\Rightarrow((\neg v2\_struct\_0 (k6\_yellow\_1 X0 X1))\wedge(v1\_orders\_2 (k6\_yellow\_1 X0 X1))) \quad (14)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0)\Rightarrow((l1\_pre\_topc X0)\wedge(l1\_orders\_2 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(l1\_struct\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2 X1)\Rightarrow((v1\_orders\_2 (k6\_yellow\_1 X0 X1))\wedge(l1\_orders\_2 (k6\_yellow\_1 X0 X1))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc X0)\wedge((\neg v2\_struct\_0 X1)\wedge(l1\_waybel\_9 X1)))\Rightarrow((v1\_orders\_2 (k3\_waybel24 X0 X1))\wedge(l1\_orders\_2 (k3\_waybel24 X0 X1))) \quad (18)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow((v1\_waybel\_9 (k1\_waybel25 X0))\wedge(l1\_waybel\_9 (k1\_waybel25 X0))) \quad (19)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge(l1\_waybel\_9 X1))\Rightarrow(\forall X2.((v1\_orders\_2 X2)\wedge(l1\_orders\_2 X2))\Rightarrow((X2 = k3\_waybel24 X0 X1)\Leftrightarrow(((v4\_yellow\_0 X2 (k6\_yellow\_1 (u1\_struct\_0 X0) X1))\wedge(m1\_yellow\_0 X2 (k6\_yellow\_1 (u1\_struct\_0 X0) X1)))\wedge(\forall X3.(X3 \in u1\_struct\_0 X2)\Leftrightarrow(\exists X4.((v1\_funct\_1 X4)\wedge((v1\_funct\_2 X4 (u1\_struct\_0 X0) (u1\_struct\_0 X1))\wedge(m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X1))))))\wedge((X3 = X4)\wedge(v5\_pre\_topc X4 X0 X1)))))))))) \quad (20)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0 X1)\wedge((v2\_pre\_topc X1)\wedge(l1\_pre\_topc X1)))\Rightarrow(k1\_waybel26 X0 X1 = k3\_waybel24 X0 (k1\_waybel25 X1))) \quad (21)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v2\_pre\_topc X1) \wedge ((v6\_pre\_topc X1) \wedge ((v1\_waybel25 X1) \wedge (l1\_pre\_topc X1))))) \Rightarrow (v24\_waybel\_0 (k1\_waybel26 X0 X1)))$$