

# t2\_waybel\_8

## (TMTNBLZwPt91DMiFyDgyg1byMjLXhwkPif9)

October 27, 2020

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  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k6\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v13\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_waybel\_6 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (((r3\_orders\_2 X0 X1 X2) \wedge ((r1\_waybel\_3 X0 X2 X3) \wedge (r3\_orders\_2 X0 X3 X4)) \Rightarrow (r1\_waybel\_3 X0 X1 X4))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X2 \in k6\_waybel\_0 X0 X1) \Leftrightarrow (r1\_orders\_2 X0 X1 X2)))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge (m1\_subset\_1 X2 (u1\_struct\_0 X0)))) \Rightarrow (r3\_orders\_2 X0 X1 X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 \\ X0)\wedge(l1\_orders\_2 X0)))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge( \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow((r3\_orders\_2 X0 X1 X2)\Leftrightarrow(r1\_orders\_2 \\ X0 X1 X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge \\ (l1\_orders\_2 X0)))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow((\neg v1\_xboole\_0 \\ (k6\_waybel\_0 X0 X1))\wedge(v2\_waybel\_0 (k6\_waybel\_0 X0 X1) X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge((v4\_orders\_2 X0)\wedge \\ (l1\_orders\_2 X0)))\wedge(m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(v13\_waybel\_0 \\ (k6\_waybel\_0 X0 X1) X0) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\wedge \\ (m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k6\_waybel\_0 \\ X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_orders\_2 \\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow((v1\_waybel\_3 \\ X1 X0)\Leftrightarrow(r1\_waybel\_3 X0 X1 X1))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_orders\_2 \\ X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 \\ X0)))\Rightarrow((v1\_waybel\_6 X1 X0)\Leftrightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\ X0))\Rightarrow(\neg(X2 \in X1)\wedge(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow \\ (\neg(X3 \in X1)\wedge(r1\_waybel\_3 X0 X3 X2)))))))) \end{aligned} \quad (10)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 \\ X0)\wedge((v1\_lattice3 X0)\wedge((v2\_lattice3 X0)\wedge((v3\_lattice3 X0)\wedge \\ (l1\_orders\_2 X0))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0))\Rightarrow(((\neg v1\_xboole\_0 (k6\_waybel\_0 X0 X1))\wedge((v2\_waybel\_0 (k6\_waybel\_0 \\ X0 X1) X0)\wedge((v13\_waybel\_0 (k6\_waybel\_0 X0 X1) X0)\wedge((v1\_waybel\_6 \\ (k6\_waybel\_0 X0 X1) X0)\wedge(m1\_subset\_1 (k6\_waybel\_0 X0 X1) (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))))))\Leftrightarrow(v1\_waybel\_3 X1 X0))) \end{aligned}$$