

# t44\_waybel23

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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  $v1\_yellow\_0 : \iota \Rightarrow o$  be given. Let  $v2\_waybel\_8 : \iota \Rightarrow o$  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  $v6\_waybel23 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_waybel\_8 : \iota \Rightarrow \iota$  be given. Let  $m1\_waybel23 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_waybel23 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v6\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_yellow\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_waybel\_8 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_waybel\_8 : \iota \Rightarrow o$  be given. Let  $v24\_waybel\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow ((v2\_waybel23 ( \\ u1\_struct\_0 (k1\_waybel\_8 X0)) X0) \wedge (m1\_subset\_1 (u1\_struct\_0 \\ (k1\_waybel\_8 X0)) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v1\_yellow\_0 X0) \wedge \\ (l1\_orders\_2 X0)))))))) \Rightarrow ((v6\_yellow\_0 (k1\_waybel\_8 X0) X0) \wedge ( \\ k3\_yellow\_0 X0 \in u1\_struct\_0 (k1\_waybel\_8 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1. (m1\_subset\_1 \\ X1 (u1\_struct\_0 X0)) \Rightarrow (k2\_waybel\_8 X0 X1 = k8\_subset\_1 (u1\_struct\_0 \\ X0) (k1\_waybel\_3 X0 X1) (u1\_struct\_0 (k1\_waybel\_8 X0)))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))\Rightarrow(k9\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(k8\_subset\_1 X0 X1 X2 = k3\_xboole\_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((v6\_waybel23 X1 X0)\Leftrightarrow(k3\_yellow\_0 X0 \in X1))) \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v1\_lattice3 X0)\wedge((v3\_waybel\_3 X0)\wedge(l1\_orders\_2 X0))))))\Rightarrow \\ (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow \\ ((m1\_waybel23 X1 X0)\Leftrightarrow((v2\_waybel23 X1 X0)\wedge(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow(X2 = k1\_yellow\_0 X0 (k9\_subset\_1 (u1\_struct\_0 X0) (k1\_waybel\_3 X0 X2) X1)))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_orders\_2 X0)))\Rightarrow((v1\_waybel\_8 X0)\Leftrightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(X1 = k1\_yellow\_0 X0 (k2\_waybel\_8 X0 X1)))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\Rightarrow(k8\_subset\_1 X0 X1 X2 = k8\_subset\_1 X0 X2 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0 X0 X1 = k3\_xboole\_0 X1 X0 \quad (10)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(v2\_waybel\_8 X0)))\Rightarrow((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge((v24\_waybel\_0 X0)\wedge(v1\_waybel\_8 X0)))) \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0)\Rightarrow(((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v1\_lattice3 X0)\wedge((v2\_lattice3 X0)\wedge(v2\_waybel\_8 X0))))))\Rightarrow((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v1\_lattice3 X0)\wedge((v2\_lattice3 X0)\wedge(v3\_waybel\_3 X0)))))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (13)$$

**Theorem 1**

$$\begin{aligned} \forall X0. & ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v2\_waybel\_8 X0) \wedge ((v1\_lattice3 X0) \wedge \\ & ((v2\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))))) \Rightarrow ((v6\_waybel23 (u1\_struct\_0 \\ & (k1\_waybel\_8 X0)) X0) \wedge (m1\_waybel23 (u1\_struct\_0 (k1\_waybel\_8 \\ & X0)) X0)) \end{aligned}$$