

# 15\_waybel\_5 (TMEyakUfYN- VdZsWDtAwj7pfWWLJLHiftv4o)

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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  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v24\_waybel\_0 : \iota \Rightarrow o$  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  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $k1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ & \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\ (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((X1 \in k1\_waybel\_3 X0 X2) \Leftrightarrow (r1\_waybel\_3 \\ & \quad X0 X1 X2)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & \quad X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & \quad X2 (u1\_struct\_0 X0)) \Rightarrow ((\forall X3.((\neg v1\_xboole\_0 X3) \wedge ((v1\_waybel\_0 \\ & \quad X3 X0) \wedge ((v12\_waybel\_0 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & \quad X0)))))) \Rightarrow ((r3\_orders\_2 X0 X2 (k1\_yellow\_0 X0 X3)) \Rightarrow (X1 \in X3)) \Rightarrow \\ & \quad (r1\_waybel\_3 X0 X1 X2)))))) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_waybel\_3 \\ & X0 X1 X2) \Rightarrow (\forall X3.((\neg v1\_xboole\_0 X3) \wedge ((v1\_waybel\_0 X3 X0) \wedge \\ & ((v12\_waybel\_0 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow ((r3\_orders\_2 X0 X2 (k1\_yellow\_0 X0 X3)) \Rightarrow (X1 \in X3)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v2\_lattice3 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (((\neg v1\_xboole\_0 \\ & (k1\_waybel\_3 X0 X1)) \wedge ((v1\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (( \\ & v12\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (m1\_subset\_1 (k1\_waybel\_3 \\ & X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \wedge ((r3\_orders\_2 X0 X1 \\ & (k1\_yellow\_0 X0 (k1\_waybel\_3 X0 X1)) \wedge (\forall X2.((\neg v1\_xboole\_0 \\ & X2) \wedge ((v1\_waybel\_0 X2 X0) \wedge ((v12\_waybel\_0 X2 X0) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((r3\_orders\_2 X0 X1 (k1\_yellow\_0 \\ & X0 X2)) \Rightarrow (r1\_tarski (k1\_waybel\_3 X0 X1) X2)))))) \Rightarrow (v3\_waybel\_3 \\ & X0)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge \\ & (l1\_orders\_2 X0))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0))) \Rightarrow (m1\_subset\_1 \\ & (k1\_waybel\_3 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (r1\_tarski X0 X1) \Leftrightarrow (\forall X2. (X2 \in X0) \Rightarrow \\ & (X2 \in X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. (X0 = X1) \Leftrightarrow ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X0)) \quad (8)$$

Assume the following.

$$\forall X0. (l1\_orders\_2 X0) \Rightarrow ((v2\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (9)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v2\_lattice3 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ & ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\exists X2.( \\ & (\neg v1\_xboole\_0 X2) \wedge ((v1\_waybel\_0 X2 X0) \wedge ((v12\_waybel\_0 X2 X0) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \wedge ((r3\_orders\_2 \\ & X0 X1 (k1\_yellow\_0 X0 X2)) \wedge (\forall X3.((\neg v1\_xboole\_0 X3) \wedge ((v1\_waybel\_0 \\ & X3 X0) \wedge ((v12\_waybel\_0 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0)))))) \Rightarrow ((r3\_orders\_2 X0 X1 (k1\_yellow\_0 X0 X3)) \Rightarrow (r1\_tarski \\ & X2 X3)))))) \Rightarrow (v3\_waybel\_3 X0)) \end{aligned}$$