

## t1\_waybel\_5

(TMM7TtMCD9HAfM7F4G3LCSBXu5nssCecPy9)

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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  $v3\_waybel\_3 : \iota \Rightarrow o$  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  $k1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  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. Assume the following.

$$\begin{aligned}
 & \forall X0. ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
 & X0) \wedge ((v2\_lattice3 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\
 & ((\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (((\neg v1\_xboole\_0 \\
 & (k1\_waybel\_3 X0 X1)) \wedge (v1\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (( \\
 & v12\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (m1\_subset\_1 (k1\_waybel\_3 \\
 & X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \wedge ((r3\_orders\_2 X0 X1 \\
 & (k1\_yellow\_0 X0 (k1\_waybel\_3 X0 X1))) \wedge (\forall X2. ((\neg v1\_xboole\_0 \\
 & X2) \wedge (v1\_waybel\_0 X2 X0) \wedge (v12\_waybel\_0 X2 X0) \wedge (m1\_subset\_1 \\
 & X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((r3\_orders\_2 X0 X1 (k1\_yellow\_0 \\
 & X0 X2)) \Rightarrow (r1\_tarski (k1\_waybel\_3 X0 X1) X2)))))) \Rightarrow (v3\_waybel\_3 \\
 & X0)
 \end{aligned}
 \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (((\neg v1\_xboole\_0 \\
& (k1\_waybel\_3 X0 X1)) \wedge ((v1\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (( \\
& v12\_waybel\_0 (k1\_waybel\_3 X0 X1) X0) \wedge (m1\_subset\_1 (k1\_waybel\_3 \\
& X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \wedge ((r3\_orders\_2 X0 X1 \\
& (k1\_yellow\_0 X0 (k1\_waybel\_3 X0 X1))) \wedge (\forall X2.((\neg v1\_xboole\_0 \\
& X2) \wedge ((v1\_waybel\_0 X2 X0) \wedge ((v12\_waybel\_0 X2 X0) \wedge (m1\_subset\_1 \\
& X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))))) \Rightarrow ((r3\_orders\_2 X0 X1 (k1\_yellow\_0 \\
& X0 X2)) \Rightarrow (r1\_tarski (k1\_waybel\_3 X0 X1) X2))))))
\end{aligned} \tag{2}$$

**Theorem 1**

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