

# t17\_waybel\_5

(TMdfo2DAV1FuWwZuxRQzS8S9QtPdjJ7yoXp)

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

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v2\_lattice3 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\
& ((\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow ((\neg v1\_xboole\_0 \\
& (k1\_waybel\_3 X0 X1)) \wedge (v1\_waybel\_0 (k1\_waybel\_3 X0 X1) X0))) \Rightarrow ( \\
& (v2\_waybel\_3 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r3\_orders\_2 \\
& X0 X1 X2) \wedge (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(r1\_waybel\_3 \\
& X0 X3 X1) \wedge (\neg r3\_orders\_2 X0 X3 X2))))))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge \\
& ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))) \wedge (m1\_subset\_1 X1 (u1\_struct\_0 \\
& X0))) \Rightarrow ((\neg v1\_xboole\_0 (k1\_waybel\_3 X0 X1)) \wedge (v1\_waybel\_0 (k1\_waybel\_3 \\
& X0 X1) X0))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0. (l1\_orders\_2 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\
& X0) \wedge (v3\_waybel\_3 X0))) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge \\
& ((v24\_waybel\_0 X0) \wedge (v2\_waybel\_3 X0))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0. (l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \tag{4}$$

**Theorem 1**

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