

## l29\_waybel\_5

(TMNoqeziv3PnMj1axi4s12GbChrAYv1a8cr)

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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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v2\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_pboole : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k7\_funcop\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_waybel\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_waybel\_5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_waybel\_5 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_waybel\_5 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $k1\_yellow\_6 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
 & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\
 & (l1\_orders\_2 X0)))))) \Rightarrow ((\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow ((X1 \in \\
 & k1\_yellow\_6 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.((v1\_relat\_1 X2) \wedge \\
 & ((v2\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 X2) \wedge (v1\_partfun1 \\
 & X2 X1)))))) \Rightarrow ((\forall X3.(m1\_subset\_1 X3 X1) \Rightarrow (k1\_funct\_1 X2 X3 \in \\
 & k1\_yellow\_6 (u1\_struct\_0 X0))) \Rightarrow (\forall X3.(m2\_pboole X3 X1 X2 \\
 & (k7\_funcop\_1 X1 (u1\_struct\_0 X0))) \Rightarrow ((\forall X4.(m1\_subset\_1 \\
 & X4 X1) \Rightarrow (v1\_waybel\_0 (k2\_relset\_1 (u1\_struct\_0 X0) (k1\_waybel\_5 \\
 & X1 (u1\_struct\_0 X0) X2 X3 X4)) X0)) \Rightarrow (k5\_yellow\_2 X0 (k4\_waybel\_5 \\
 & X0 X3) = k4\_yellow\_2 X0 (k5\_waybel\_5 X0 (k2\_waybel\_5 X1 (u1\_struct\_0 \\
 & X0) X2 X3)))))))))) \Rightarrow (v3\_waybel\_3 X0))
 \end{aligned}
 \tag{1}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\ & (l1\_orders\_2 X0)))))) \Rightarrow ((\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow (\forall X2. \\ & ((v1\_relat\_1 X2) \wedge ((v2\_relat\_1 X2) \wedge ((v4\_relat\_1 X2 X1) \wedge ((v1\_funct\_1 \\ & X2) \wedge (v1\_partfun1 X2 X1)))))) \Rightarrow (\forall X3.(m2\_pboole X3 X1 X2 (k7\_funcop\_1 \\ & X1 (u1\_struct\_0 X0))) \Rightarrow ((\forall X4.(m1\_subset\_1 X4 X1) \Rightarrow (v1\_waybel\_0 \\ & (k2\_relset\_1 (u1\_struct\_0 X0) (k1\_waybel\_5 X1 (u1\_struct\_0 X0) \\ & X2 X3 X4)) X0) \Rightarrow (k5\_yellow\_2 X0 (k4\_waybel\_5 X0 X3) = k4\_yellow\_2 \\ & X0 (k5\_waybel\_5 X0 (k2\_waybel\_5 X1 (u1\_struct\_0 X0) X2 X3)))))) \Rightarrow \\ & (v3\_waybel\_3 X0)) \end{aligned}$$