

# t18\_waybel\_4 (TMMrQNujfhmTchbrqigMWHjL- sYrTB7on7QX)

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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  $v1\_lattice3 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k7\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_waybel\_4 : \iota \Rightarrow \iota$  be given. Let  $v1\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_waybel\_4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_waybel\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_orders\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_tarski : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $r1\_yellow\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
 & X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\
 & (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(( \\
 & v1\_waybel\_4 X2 X0) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
 & (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow (r1\_tarski (k5\_waybel\_4 \\
 & X0 X1 X2) (k5\_waybel\_0 X0 X1))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. (((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge \\
 & ((v5\_orders\_2 X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 \\
 & X0)))))) \wedge ((v2\_waybel\_4 X1 X0) \wedge ((v3\_waybel\_4 X1 X0) \wedge ((v4\_waybel\_4 \\
 & X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
 & X0) (u1\_struct\_0 X0)))))) \Rightarrow ((v1\_funct\_1 (k7\_waybel\_4 X0 X1)) \wedge \\
 & ((v1\_funct\_2 (k7\_waybel\_4 X0 X1) (u1\_struct\_0 X0) (u1\_struct\_0 \\
 & (k2\_yellow\_1 (k7\_waybel\_0 X0)))) \wedge (v5\_orders\_3 (k7\_waybel\_4 \\
 & X0 X1) X0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge(l1\_orders\_2 X0))))\Rightarrow((v1\_orders\_2 (k8\_waybel\_4 X0))\wedge(l1\_orders\_2 (k8\_waybel\_4 X0))) \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge(((v5\_orders\_2 X0)\wedge((v1\_yellow\_0 X0)\wedge((v1\_lattice3 X0)\wedge(l1\_orders\_2 X0))))))\wedge((v2\_waybel\_4 X1 X0)\wedge((v3\_waybel\_4 X1 X0)\wedge((v4\_waybel\_4 X1 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0))))))))\Rightarrow((v1\_funct\_1 (k7\_waybel\_4 X0 X1))\wedge((v1\_funct\_2 (k7\_waybel\_4 X0 X1) (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))))\wedge(m1\_subset\_1 (k7\_waybel\_4 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \quad (4)$$

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.((v1\_orders\_2 \\
& X1) \wedge (l1\_orders\_2 X1)) \Rightarrow ((X1 = k8\_waybel\_4 X0) \Leftrightarrow (\forall X2.(\neg \\
& X2 \in u1\_struct\_0 X1) \wedge (\forall X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 \\
& X3 (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))) \wedge \\
& (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \Rightarrow (\neg (X2 = X3) \wedge ((v5\_orders\_3 \\
& X3 X0 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (\forall X4.(m1\_subset\_1 \\
& X4 (u1\_struct\_0 X0)) \Rightarrow (r1\_tarski (k3\_funct\_2 (u1\_struct\_0 X0) \\
& (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))) X3 X4) (k5\_waybel\_0 \\
& X0 X4)))))) \wedge ((\exists X3.((v1\_funct\_1 X3) \wedge ((v1\_funct\_2 X3 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))) \wedge \\
& (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \wedge ((X2 = X3) \wedge ((v5\_orders\_3 \\
& X3 X0 (k2\_yellow\_1 (k7\_waybel\_0 X0))) \wedge (\forall X4.(m1\_subset\_1 \\
& X4 (u1\_struct\_0 X0)) \Rightarrow (r1\_tarski (k3\_funct\_2 (u1\_struct\_0 X0) \\
& (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))) X3 X4) (k5\_waybel\_0 \\
& X0 X4)))))) \Rightarrow (X2 \in u1\_struct\_0 X1) \wedge (\forall X3.\forall X4.(k4\_tarski \\
& X3 X4 \in u1\_orders\_2 X1) \Leftrightarrow (\exists X5.((v1\_funct\_1 X5) \wedge ((v1\_funct\_2 \\
& X5 (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))) \wedge \\
& (m1\_subset\_1 X5 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \wedge (\exists X6.((v1\_funct\_1 \\
& X6) \wedge ((v1\_funct\_2 X6 (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 \\
& (k7\_waybel\_0 X0)))))) \wedge (m1\_subset\_1 X6 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\
& (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \wedge \\
& ((X3 = X5) \wedge ((X4 = X6) \wedge ((X3 \in u1\_struct\_0 X1) \wedge ((X4 \in u1\_struct\_0 X1) \wedge \\
& (r1\_yellow\_2 (u1\_struct\_0 X0) (k2\_yellow\_1 (k7\_waybel\_0 X0)) \\
& X5 X6))))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\
& (\forall X1.((v2\_waybel\_4 X1 X0) \wedge ((v3\_waybel\_4 X1 X0) \wedge ((v4\_waybel\_4 \\
& X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 X0)))))))))) \Rightarrow (\forall X2.((v1\_funct\_1 X2) \wedge ((v1\_funct\_2 \\
& X2 (u1\_struct\_0 X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0)))))) \wedge \\
& (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\
& (k2\_yellow\_1 (k7\_waybel\_0 X0)))))))))) \Rightarrow ((X2 = k7\_waybel\_4 X0 X1) \Leftrightarrow \\
& (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (k3\_funct\_2 (u1\_struct\_0 \\
& X0) (u1\_struct\_0 (k2\_yellow\_1 (k7\_waybel\_0 X0))) X2 X3 = k5\_waybel\_4 \\
& X0 X3 X1))))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 \\ & X0)))) \Rightarrow ((v5\_waybel\_4 X1 X0) \Rightarrow ((v1\_waybel\_4 X1 X0) \wedge ((v2\_waybel\_4 \\ & X1 X0) \wedge ((v3\_waybel\_4 X1 X0) \wedge (v4\_waybel\_4 X1 X0))))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (l1\_orders\_2 X0))))) \Rightarrow \\ & (\forall X1.((v5\_waybel\_4 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 (u1\_struct\_0 X0) (u1\_struct\_0 X0)))))) \Rightarrow (k7\_waybel\_4 \\ & X0 X1 \in u1\_struct\_0 (k8\_waybel\_4 X0))) \end{aligned}$$