

## t53\_waybel\_0

(TMXHar2An9oXUi1U8i2HqAu2op91PJjTH1F)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v4\_orders\_2 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\
 & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
 & (u1\_struct\_0 X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
 & (u1\_struct\_0 X0))) \Rightarrow (((\forall X3. ((v1\_finset\_1 X3) \wedge (m1\_subset\_1 \\
 & X3 (k1\_zfmisc\_1 X1))) \Rightarrow ((X3 \neq k1\_xboole\_0) \Rightarrow (r1\_yellow\_0 X0 X3))) \wedge \\
 & ((\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg (X3 \in X2) \wedge (\forall X4. \\
 & ((v1\_finset\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 X1))) \Rightarrow (\neg (r1\_yellow\_0 \\
 & X0 X4) \wedge (X3 = k1\_yellow\_0 X0 X4)))))) \wedge (\forall X3. ((v1\_finset\_1 \\
 & X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 X1))) \Rightarrow ((X3 \neq k1\_xboole\_0) \Rightarrow ( \\
 & k1\_yellow\_0 X0 X3 \in X2)))))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 \\
 & X0)) \Rightarrow ((r2\_lattice3 X0 X1 X3) \Leftrightarrow (r2\_lattice3 X0 X2 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\
 & \forall X2. ((\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (( \\
 & r2\_lattice3 X0 X1 X3) \Leftrightarrow (r2\_lattice3 X0 X2 X3))) \wedge (r1\_yellow\_0 X0 \\
 & X1)) \Rightarrow (r1\_yellow\_0 X0 X2))
 \end{aligned} \tag{2}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow ((\forall X3.((v1\_finset\_1 X3) \wedge (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 X1))) \Rightarrow ((X3 \neq k1\_xboole\_0) \Rightarrow (r1\_yellow\_0 X0 X3)))) \wedge \\ & ((\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(X3 \in X2) \wedge (\forall X4. \\ & ((v1\_finset\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 X1))) \Rightarrow (\neg(r1\_yellow\_0 \\ & X0 X4) \wedge (X3 = k1\_yellow\_0 X0 X4)))))) \wedge (\forall X3.((v1\_finset\_1 \\ & X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 X1))) \Rightarrow ((X3 \neq k1\_xboole\_0) \Rightarrow ( \\ & k1\_yellow\_0 X0 X3 \in X2)))))) \Rightarrow ((r1\_yellow\_0 X0 X1) \Leftrightarrow (r1\_yellow\_0 \\ & X0 X2)))) \end{aligned}$$