

## t48\_waybel23

(TMYEuwAXobP9bD5cyRSxGDAHrWetaWeVGs1)

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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  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v3\_waybel\_3 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v2\_waybel23 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_yellow\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_waybel23 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_waybel\_8 : \iota \Rightarrow \iota$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))))) \Rightarrow (\forall X1. ((v2\_waybel23 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((k3\_yellow\_0 X0 \in X1) \Rightarrow ((m1\_waybel23 X1 X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(r1\_waybel\_3 X0 X2 X3) \wedge (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((r3\_orders\_2 X0 X2 X4) \wedge (r1\_waybel\_3 X0 X4 X3)))))))))) \quad (2) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))))) \Rightarrow (\forall X1. ((v2\_waybel23 X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((m1\_waybel23 X1 X0) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r3\_orders\_2 X0 X3 X2) \wedge (\forall X4. (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((\neg r3\_orders\_2 X0 X4 X2) \wedge (r1\_waybel\_3 X0 X4 X3)))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\
& ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\
& X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow ((\forall X2.(m1\_subset\_1 \\
& X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 \\
& X0)) \Rightarrow (\neg(\neg r3\_orders\_2 X0 X3 X2) \wedge (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 \\
& X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((\neg r3\_orders\_2 X0 X4 X2) \wedge (r3\_orders\_2 X0 X4 X3)))))) \Rightarrow \\
& (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3.(m1\_subset\_1 \\
& X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r3\_orders\_2 X0 X3 X2) \wedge (\forall X4.(m1\_subset\_1 \\
& X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((\neg r3\_orders\_2 X0 X4 X2) \wedge (r1\_waybel\_3 \\
& X0 X4 X3)))))))))
\end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\
& ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.((v2\_waybel23 \\
& X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (((k3\_yellow\_0 \\
& X0 \in X1) \wedge (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\
& (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(r1\_waybel\_3 X0 X2 X3) \wedge (\forall X4. \\
& (m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((r3\_orders\_2 X0 \\
& X2 X4) \wedge (r1\_waybel\_3 X0 X4 X3)))))) \Rightarrow ((r1\_tarski (u1\_struct\_0 \\
& (k1\_waybel\_8 X0)) X1) \wedge (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 \\
& X0)) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r3\_orders\_2 \\
& X0 X3 X2) \wedge (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in \\
& X1) \wedge ((\neg r3\_orders\_2 X0 X4 X2) \wedge (r3\_orders\_2 X0 X4 X3)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v1\_lattice3 X0) \wedge ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow \\
& (\forall X1.(m1\_waybel23 X1 X0) \Rightarrow (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 X0)))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\
& X0) \wedge ((v1\_lattice3 X0) \wedge ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow \\
& (\forall X1.(m1\_waybel23 X1 X0) \Rightarrow (v2\_waybel23 X1 X0))
\end{aligned} \tag{7}$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_yellow\_0 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\ & ((v3\_waybel\_3 X0) \wedge (l1\_orders\_2 X0)))))))) \Rightarrow (\forall X1.((v2\_waybel23 \\ X1 X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow ((k3\_yellow\_0 \\ X0 \in X1) \Rightarrow ((m1\_waybel23 X1 X0) \Leftrightarrow ((r1\_tarski (u1\_struct\_0 (k1\_waybel\_8 \\ X0)) X1) \wedge (\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. \\ (m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow (\neg(\neg r3\_orders\_2 X0 X3 X2) \wedge ( \\ \forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X1) \wedge ((\neg r3\_orders\_2 \\ X0 X4 X2) \wedge (r3\_orders\_2 X0 X4 X3))))))))))))) \end{aligned}$$