

# t52\_waybel23 (TMN- TWJpUEbw2fJBsGmfSa5YN6kTV5PoEVWa)

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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  $v4\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_waybel\_0 : \iota \Rightarrow \iota$  be given. Let  $k3\_waybel23 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_reset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v4\_yellow\_0 \\ X1 X0) \wedge (m1\_yellow\_0 X1 X0))) \Rightarrow ((k1\_reset\_1 (u1\_struct\_0 (k2\_yellow\_1 \\ (k7\_waybel\_0 X1))) (k3\_waybel23 X0 X1) = k7\_waybel\_0 X1) \wedge (m1\_subset\_1 \\ (k2\_reset\_1 (u1\_struct\_0 X0) (k3\_waybel23 X0 X1)) (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_yellow\_0 X1 X0) \Rightarrow (l1\_orders\_2 X1)) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (k7\_waybel\_0 X0 = ReplSep (toset (\lambda X1 : \\ \iota. (\neg v1\_xboole\_0 X1) \wedge ((v1\_waybel\_0 X1 X0) \wedge ((v12\_waybel\_0 X1 \\ X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))))) (\lambda X1 : \\ \iota.True) (\lambda X1 : \iota.X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.((v4\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. (m1\_yellow\_0 X1 X0) \Rightarrow ((v4\_yellow\_0 X1 X0) \Rightarrow ((v4\_orders\_2 X1) \wedge (v4\_yellow\_0 X1 X0)))) \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ & (m1\_yellow\_0 X1 X0) \Rightarrow ((v4\_yellow\_0 X1 X0) \Rightarrow ((v3\_orders\_2 X1) \wedge ( \\ & v4\_yellow\_0 X1 X0)))) \end{aligned} \quad (5)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v4\_yellow\_0 \\ & X1 X0) \wedge (m1\_yellow\_0 X1 X0))) \Rightarrow (\forall X2.(X2 \in k1\_relset\_1 (u1\_struct\_0 \\ & (k2\_yellow\_1 (k7\_waybel\_0 X1))) (k3\_waybel23 X0 X1)) \Leftrightarrow ((\neg v1\_xboole\_0 \\ & X2) \wedge ((v1\_waybel\_0 X2 X1) \wedge ((v12\_waybel\_0 X2 X1) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))))))) \end{aligned}$$