

# t7\_waybel20 (TMRBjLoaqFUDjz- cLq32NRYxtmRhWQ6GQxMP)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  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  $k3\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_yellow\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v2\_yellow\_0 : \iota \Rightarrow o$  be given. Let  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$(k9\_xtuple\_0 \ k1\_xboole\_0 = k1\_xboole\_0) \wedge (k10\_xtuple\_0 \ k1\_xboole\_0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (& \neg v2\_struct\_0 \ X0) \wedge ((v5\_orders\_2 \ X0) \wedge ((v2\_yellow\_0 \\ & X0) \wedge (l1\_orders\_2 \ X0))) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 \ X1) \wedge ((v5\_orders\_2 \\ & X1) \wedge ((v2\_yellow\_0 \ X1) \wedge (l1\_orders\_2 \ X1)))) \Rightarrow (\forall X2. (m1\_subset\_1 \\ & X2 \ (k1\_zfmisc\_1 \ (u1\_struct\_0 \ (k3\_yellow\_3 \ X0 \ X1)))) \Rightarrow (((v3\_lattice3 \\ & (k3\_yellow\_3 \ X0 \ X1)) \vee (r2\_yellow\_0 \ (k3\_yellow\_3 \ X0 \ X1) \ X2)) \Rightarrow (k2\_yellow\_0 \\ & (k3\_yellow\_3 \ X0 \ X1) \ X2 = k7\_yellow\_3 \ X0 \ X1 \ (k2\_yellow\_0 \ X0 \ (k4\_yellow\_3 \\ & X0 \ X1 \ X2)) \ (k2\_yellow\_0 \ X1 \ (k5\_yellow\_3 \ X0 \ X1 \ X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (v1\_xboole\_0 \ X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 \ X0) \wedge ((v5\_orders\_2 \ X0) \wedge (l1\_orders\_2 \ X0))) \Rightarrow ((r2\_yellow\_0 \ X0 \ k1\_xboole\_0) \Rightarrow (v2\_yellow\_0 \ X0)) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v5\_orders\_2 X1) \wedge (l1\_orders\_2 \\
& X1))) \Rightarrow (\forall X2.((\neg v1\_xboole\_0 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\
& (u1\_struct\_0 (k3\_yellow\_3 X0 X1)))))) \Rightarrow (((v3\_lattice3 (k3\_yellow\_3 \\
& X0 X1)) \vee (r2\_yellow\_0 (k3\_yellow\_3 X0 X1) X2)) \Rightarrow (k2\_yellow\_0 (k3\_yellow\_3 \\
& X0 X1) X2 = k7\_yellow\_3 X0 X1 (k2\_yellow\_0 X0 (k4\_yellow\_3 X0 X1 X2)) \\
& (k2\_yellow\_0 X1 (k5\_yellow\_3 X0 X1 X2))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v5\_orders\_2 X1) \wedge (l1\_orders\_2 \\
& X1))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& (k3\_yellow\_3 X0 X1)))) \Rightarrow (((r2\_yellow\_0 X0 (k4\_yellow\_3 X0 X1 X2)) \wedge \\
& (r2\_yellow\_0 X1 (k5\_yellow\_3 X0 X1 X2))) \Leftrightarrow (r2\_yellow\_0 (k3\_yellow\_3 \\
& X0 X1) X2))))
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((l1\_orders\_2 X0) \wedge ((l1\_orders\_2 \\
& X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 (k3\_yellow\_3 X0 \\
& X1)))))) \Rightarrow (k5\_yellow\_3 X0 X1 X2 = k10\_xtuple\_0 X2)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0. \forall X1. \forall X2. ((l1\_orders\_2 X0) \wedge ((l1\_orders\_2 \\
& X1) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 (k3\_yellow\_3 X0 \\
& X1)))))) \Rightarrow (k4\_yellow\_3 X0 X1 X2 = k9\_xtuple\_0 X2)
\end{aligned} \tag{8}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge (l1\_orders\_2 \\
& X0))) \Rightarrow (\forall X1.((\neg v2\_struct\_0 X1) \wedge ((v5\_orders\_2 X1) \wedge (l1\_orders\_2 \\
& X1))) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\
& (k3\_yellow\_3 X0 X1)))) \Rightarrow ((r2\_yellow\_0 (k3\_yellow\_3 X0 X1) X2) \Rightarrow \\
& (k2\_yellow\_0 (k3\_yellow\_3 X0 X1) X2 = k7\_yellow\_3 X0 X1 (k2\_yellow\_0 \\
& X0 (k4\_yellow\_3 X0 X1 X2)) (k2\_yellow\_0 X1 (k5\_yellow\_3 X0 X1 X2))))))
\end{aligned}$$