

# t33\_waybel30 (TMXpn- hvXe5AAwdwBYxjjqHcjTjQmdNKkvx4)

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Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. 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  $v1\_lattice3 : \iota \Rightarrow o$  be given. Let  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v3\_lattice3 : \iota \Rightarrow o$  be given. Let  $v2\_waybel19 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $v4\_waybel11 : \iota \Rightarrow o$  be given. Let  $m1\_yellow\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarSKI : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_waybel11 : \iota \Rightarrow \iota$  be given. Let  $k2\_waybel19 : \iota \Rightarrow \iota$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $r2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $r1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. (& (v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge \\ & (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1. ((v3\_orders\_2 X1) \wedge ((v4\_orders\_2 \\ & X1) \wedge ((v5\_orders\_2 X1) \wedge ((v1\_lattice3 X1) \wedge ((v2\_lattice3 X1) \wedge \\ & (l1\_orders\_2 X1)))))) \Rightarrow ((g1\_orders\_2 (u1\_struct\_0 \\ & X0) (u1\_orders\_2 X0) = g1\_orders\_2 (u1\_struct\_0 X1) (u1\_orders\_2 \\ & X1)) \Rightarrow (k5\_waybel11 X0 = k5\_waybel11 X1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (l1\_orders\_2 X0) \Rightarrow (\forall X1. (l1\_orders\_2 X1) \Rightarrow (( \\ & g1\_orders\_2 (u1\_struct\_0 X0) (u1\_orders\_2 X0) = g1\_orders\_2 (u1\_struct\_0 \\ & X1) (u1\_orders\_2 X1)) \Rightarrow (\forall X2. (r2\_yellow\_0 X0 X2) \Rightarrow (k2\_yellow\_0 \\ & X0 X2 = k2\_yellow\_0 X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. (& (\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v3\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1. (r1\_yellow\_0 X0 X1) \wedge (r2\_yellow\_0 \\ & X0 X1)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v2\_pre\_topc\ X0)\wedge((v3\_orders\_2\ X0)\wedge((v4\_orders\_2 \\ X0)\wedge((v5\_orders\_2\ X0)\wedge((v1\_lattice3\ X0)\wedge((v2\_lattice3\ X0)\wedge \\ ((v3\_lattice3\ X0)\wedge((v2\_waybel19\ X0)\wedge(l1\_waybel\_9\ X0))))))))\Rightarrow \\ (r1\_tarSKI\ (k5\_waybel11\ X0)\ (k2\_waybel19\ X0)) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ X0\ X0)))\Rightarrow(\forall X2.\forall X3.(g1\_orders\_2\ X0\ X1 = g1\_orders\_2 \\ X2\ X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2\ X0)\Rightarrow(m1\_subset\_1\ (u1\_orders\_2\ X0)\ (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2\ X0)\Rightarrow(\forall X1.(m1\_yellow\_9\ X1\ X0)\Rightarrow \\ (l1\_waybel\_9\ X1)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9\ X0)\Rightarrow((l1\_pre\_topc\ X0)\wedge(l1\_orders\_2\ X0)) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2\ X0)\Rightarrow(\forall X1.(l1\_waybel\_9\ X1)\Rightarrow(( \\ m1\_yellow\_9\ X1\ X0)\Leftrightarrow(g1\_orders\_2\ (u1\_struct\_0\ X1)\ (u1\_orders\_2 \\ X1) = g1\_orders\_2\ (u1\_struct\_0\ X0)\ (u1\_orders\_2\ X0)))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(r1\_tarSKI\ X0\ X1)\Leftrightarrow(\forall X2.(X2 \in X0)\Rightarrow \\ (X2 \in X1)) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0)\wedge((v3\_lattice3\ X0)\wedge(l1\_orders\_2 \\ X0)))\Rightarrow(\forall X1.(m1\_yellow\_9\ X1\ X0)\Rightarrow(v3\_lattice3\ X1)) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1. \\ (m1\_yellow\_9\ X1\ X0)\Rightarrow(v5\_orders\_2\ X1)) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((v4\_orders\_2\ X0)\wedge(l1\_orders\_2\ X0))\Rightarrow(\forall X1. \\ (m1\_yellow\_9\ X1\ X0)\Rightarrow(v4\_orders\_2\ X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.((v3\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. (m1\_yellow\_9 X1 X0) \Rightarrow (v3\_orders\_2 X1)) \quad (14)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. (m1\_yellow\_9 X1 X0) \Rightarrow (\neg v2\_struct\_0 X1)) \quad (15)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (((\neg v2\_struct\_0 X0) \wedge (v3\_lattice3 X0)) \Rightarrow ((\neg v2\_struct\_0 X0) \wedge ((v1\_lattice3 X0) \wedge (v2\_lattice3 X0)))) \quad (16)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v1\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \quad (17)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge ((v3\_lattice3 X0) \wedge ((v2\_waybel19 X0) \wedge (l1\_waybel\_9 X0)))))))))) \Rightarrow \\ & (\forall X1.((v4\_waybel11 X1) \wedge (m1\_yellow\_9 X1 X0)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (r1\_tarski (ReplSep (toset (\lambda X3 : \iota.m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1)))) (\lambda X3 : \iota.(X2 \in X3) \wedge (X3 \in k5\_waybel11 X1)) (\lambda X3 : \iota.k2\_yellow\_0 X1 X3)) (ReplSep (toset (\lambda X3 : \iota.m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) (\lambda X3 : \iota.(X2 \in X3) \wedge (X3 \in k2\_waybel19 X0)) (\lambda X3 : \iota.k2\_yellow\_0 X0 X3)))))) \end{aligned}$$