

# t11\_waybel32

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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  $v2\_lattice3 : \iota \Rightarrow o$  be given. Let  $v24\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $v25\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $m1\_yellow\_9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $k5\_waybel11 : \iota \Rightarrow \iota$  be given. Let  $v4\_waybel11 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $v1\_waybel11 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v12\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v13\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k13\_yellow\_6 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_waybel11 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  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.

$$\begin{aligned} \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0))))) \Rightarrow (\forall X1. ((\neg v2\_struct\_0 X1) \wedge ((v3\_orders\_2 X1) \wedge (l1\_orders\_2 X1))) \Rightarrow ((g1\_orders\_2 (u1\_struct\_0 X0) (u1\_orders\_2 X0) = g1\_orders\_2 (u1\_struct\_0 X1) (u1\_orders\_2 X1)) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 X1)) \Rightarrow (((X2 = X3) \wedge (v1\_waybel11 X2 X0)) \Rightarrow (v1\_waybel11 X3 X1))))))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(l1\_orders\_2 X1) \Rightarrow (( \\ g1\_orders\_2 (u1\_struct\_0 X0) (u1\_orders\_2 X0) = g1\_orders\_2 (u1\_struct\_0 \\ X1) (u1\_orders\_2 X1)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow (\forall X3.(m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X1))) \Rightarrow ((X2 = X3) \Rightarrow ((v12\_waybel\_0 X2 X0) \Rightarrow (v12\_waybel\_0 \\ X3 X1)) \wedge ((v13\_waybel\_0 X2 X0) \Rightarrow (v13\_waybel\_0 X3 X1))))))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ X0) \wedge ((v2\_lattice3 X0) \wedge ((v25\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ ((X1 \in u1\_pre\_topc (k13\_yellow\_6 X0 (k2\_waybel11 X0))) \Leftrightarrow ((v1\_waybel11 \\ X1 X0) \wedge (v13\_waybel\_0 X1 X0)))) \end{aligned} \quad (4)$$

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.

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

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(m1\_yellow\_9 X1 X0) \Rightarrow \\ (l1\_waybel\_9 X1)) \quad (7)$$

Assume the following.

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

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ X0))) \Rightarrow (m1\_subset\_1 (k5\_waybel11 X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0)))) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow (\forall X1.(l1\_waybel\_9 X1) \Rightarrow (( \\ m1\_yellow\_9 X1 X0) \Leftrightarrow (g1\_orders\_2 (u1\_struct\_0 X1) (u1\_orders\_2 \\ X1) = g1\_orders\_2 (u1\_struct\_0 X0) (u1\_orders\_2 X0)))) \quad (10)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_waybel\_9 \\ X0))) \Rightarrow ((v4\_waybel11 X0) \Leftrightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v3\_pre\_topc X1 X0) \Leftrightarrow ((v1\_waybel11 X1 X0) \wedge \\ (v13\_waybel\_0 X1 X0)))))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ (u1\_struct\_0 X0))) \Rightarrow ((v3\_pre\_topc X1 X0) \Leftrightarrow (X1 \in u1\_pre\_topc X0))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\ X0))) \Rightarrow (k5\_waybel11 X0 = u1\_pre\_topc (k13\_yellow\_6 X0 (k2\_waybel11 \\ X0))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.((v5\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ (m1\_yellow\_9 X1 X0) \Rightarrow (v5\_orders\_2 X1)) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ (m1\_yellow\_9 X1 X0) \Rightarrow (v3\_orders\_2 X1)) \end{aligned} \quad (15)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_orders\_2 X0)))))) \Rightarrow \\ (\forall X1.(m1\_yellow\_9 X1 X0) \Rightarrow (v24\_waybel\_0 X1)) \end{aligned} \quad (16)$$

Assume the following.

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

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ (m1\_yellow\_9 X1 X0) \Rightarrow (\neg v2\_struct\_0 X1)) \end{aligned} \quad (18)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ X0) \wedge ((v2\_lattice3 X0) \wedge ((v24\_waybel\_0 X0) \wedge ((v25\_waybel\_0 X0) \wedge \\ (l1\_orders\_2 X0)))))) \Rightarrow (\forall X1.(m1\_yellow\_9 X1 X0) \Rightarrow ((u1\_pre\_topc \\ X1 = k5\_waybel11 X0) \Rightarrow (v4\_waybel11 X1))) \end{aligned}$$