

# t26\_waybel14 (TMTnF- BFH4xJyVnKvVnnwjbJEbhAXJZKAHAr)

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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  $v4\_waybel11 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $r1\_lattice3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v13\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_waybel11 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k1\_yellow\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_waybel\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v5\_orders\_2 X0) \wedge ((v3\_lattice3 \\ & X0) \wedge (l1\_orders\_2 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ & X0)) \Rightarrow (\forall X2.(X1 = k2\_yellow\_0 X0 X2) \Leftrightarrow ((r1\_lattice3 X0 X2 X1) \wedge \\ & (\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0)) \Rightarrow ((r1\_lattice3 \\ & X0 X2 X3) \Rightarrow (r1\_orders\_2 X0 X3 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2\_pre\_topc X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ & X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\ & ((v4\_waybel11 X0) \wedge (l1\_waybel\_9 X0)))))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)) \Rightarrow ((v3\_pre\_topc X1 X0) \Leftrightarrow ((v13\_waybel\_0 \\ & X1 X0) \wedge (v3\_waybel11 X1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. (((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ & X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ & m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (r3\_orders\_2 X0 X1 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_orders\_2 X0)))\wedge((m1\_subset\_1 X1 (u1\_struct\_0 X0))\wedge(m1\_subset\_1 X2 (u1\_struct\_0 X0))))\Rightarrow((r3\_orders\_2 X0 X1 X2)\Leftrightarrow(r1\_orders\_2 X0 X1 X2))) \quad (4)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0)\Rightarrow((l1\_pre\_topc X0)\wedge(l1\_orders\_2 X0)) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2 X0)\Rightarrow(m1\_subset\_1 (k2\_yellow\_0 X0 X1) (u1\_struct\_0 X0)) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(l1\_orders\_2 X0)\Rightarrow(m1\_subset\_1 (k1\_yellow\_0 X0 X1) (u1\_struct\_0 X0)) \quad (7)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow((r1\_lattice3 X0 X1 X2)\Leftrightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow((X3 \in X1)\Rightarrow(r1\_orders\_2 X0 X2 X3)))))) \quad (8)$$

Assume the following.

$$\forall X0.(((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_orders\_2 X0)))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((v3\_waybel11 X1 X0)\Leftrightarrow(\forall X2.(((\neg v1\_xboole\_0 X2)\wedge(v1\_waybel\_0 X2 X0)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(\neg(k1\_yellow\_0 X0 X2 \in X1)\wedge(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow(\neg(X3 \in X2)\wedge(\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0))\Rightarrow(((X4 \in X2)\wedge(r1\_orders\_2 X0 X3 X4))\Rightarrow(X4 \in X1))))))))))) \quad (9)$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((v13\_waybel\_0 X1 X0)\Leftrightarrow(\forall X2.(m1\_subset\_1 X2 (u1\_struct\_0 X0))\Rightarrow(\forall X3.(m1\_subset\_1 X3 (u1\_struct\_0 X0))\Rightarrow(((X2 \in X1)\wedge(r1\_orders\_2 X0 X2 X3))\Rightarrow(X3 \in X1)))))) \quad (10)$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge (l1\_orders\_2 \\
& \quad X0))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2. \\
& \quad (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow ((r1\_waybel\_3 X0 X1 X2) \Leftrightarrow (\forall X3. \\
& \quad ((\neg v1\_xboole\_0 X3) \wedge ((v1\_waybel\_0 X3 X0) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\
& \quad \quad (u1\_struct\_0 X0)))))) \Rightarrow (\neg(r3\_orders\_2 X0 X2 (k1\_yellow\_0 X0 X3)) \wedge \\
& \quad (\forall X4.(m1\_subset\_1 X4 (u1\_struct\_0 X0)) \Rightarrow (\neg(X4 \in X3) \wedge (r3\_orders\_2 \\
& \quad \quad X0 X1 X4)))))))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(l1\_orders\_2 X0) \Rightarrow ((v2\_lattice3 X0) \Rightarrow (\neg v2\_struct\_0 X0)) \tag{12}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((v2\_pre\_topc X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\
& \quad X0) \wedge ((v5\_orders\_2 X0) \wedge ((v1\_lattice3 X0) \wedge ((v2\_lattice3 X0) \wedge \\
& \quad ((v3\_lattice3 X0) \wedge ((v4\_waybel11 X0) \wedge (l1\_waybel\_9 X0)))))))))) \Rightarrow \\
& (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 \\
& \quad X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)) \Rightarrow (((v3\_pre\_topc X2 X0) \wedge (X1 \in \\
& \quad \quad X2)) \Rightarrow (r1\_waybel\_3 X0 (k2\_yellow\_0 X0 X2) X1))))
\end{aligned}$$