

t14\_waybel29 (TM-  
PJYFvmP6L4DCZxUq3CQ1ssBPhDWkFTjVB)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v3\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v5\_orders\_2 : \iota \Rightarrow o$  be given. Let  $v24\_waybel\_0 : \iota \Rightarrow o$  be given. Let  $l1\_waybel\_9 : \iota \Rightarrow o$  be given. Let  $g1\_waybel\_9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $u1\_orders\_2 : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  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  $l1\_orders\_2 : \iota \Rightarrow o$  be given. Let  $g1\_orders\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X0 X0)))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k1\_zfmisc\_1 \\ & X0))))\Rightarrow(\forall X3.\forall X4.\forall X5.(g1\_waybel\_9 X0 X1 X2 = \\ & g1\_waybel\_9 X3 X4 X5)\Rightarrow((X0 = X3)\wedge((X1 = X4)\wedge(X2 = X5)))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(m1\_subset\_1 (u1\_pre\_topc X0) (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (5)$$

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.

$$\forall X0.(l1\_waybel\_9 X0)\Rightarrow((l1\_pre\_topc X0)\wedge(l1\_orders\_2 X0)) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge(l1\_waybel\_9 \\ & X0)))\Rightarrow((v4\_waybel11 X0)\Leftrightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))\Rightarrow((v3\_pre\_topc X1 X0)\Leftrightarrow((v1\_waybel11 X1 X0)\wedge \\ & (v13\_waybel\_0 X1 X0)))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0)\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow((v3\_pre\_topc X1 X0)\Leftrightarrow(X1 \in u1\_pre\_topc X0))) \quad (9)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge((v4\_waybel11 \\ & X0)\wedge(l1\_waybel\_9 X0))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0)))\Rightarrow(((v13\_waybel\_0 X1 X0)\wedge(v1\_waybel11 X1 X0))\Rightarrow \\ & (v3\_pre\_topc X1 X0))) \end{aligned} \quad (10)$$

Assume the following.

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

**Theorem 1**

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge (v3\_orders\_2 X0) \wedge ((v5\_orders\_2 \\ & \quad X0) \wedge ((v24\_waybel\_0 X0) \wedge (l1\_waybel\_9 X0)))) \Rightarrow (\forall X1. (( \\ \neg v2\_struct\_0 X1) \wedge (v3\_orders\_2 X1) \wedge (v5\_orders\_2 X1) \wedge ((v24\_waybel\_0 \\ X1) \wedge (l1\_waybel\_9 X1)))) \Rightarrow (((g1\_waybel\_9 (u1\_struct\_0 X0) (u1\_orders\_2 \\ X0) (u1\_pre\_topc X0) = g1\_waybel\_9 (u1\_struct\_0 X1) (u1\_orders\_2 \\ X1) (u1\_pre\_topc X1)) \wedge (v4\_waybel11 X0)) \Rightarrow (v4\_waybel11 X1)) \end{aligned}$$