

# t5\_waybel32 (TMPkMXCpeFon- FTrcD8Xa64Ttp7LvQvEU1Uw)

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Let  $v2\_struct.0 : \iota \Rightarrow o$  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  $v24\_waybel.0 : \iota \Rightarrow o$  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  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_domain.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_waybel.0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $k1\_zfmisc.1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_waybel11 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v12\_waybel.0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $l1\_orders.2 : \iota \Rightarrow o$  be given. Let  $m1\_yellow.9 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $r1\_orders.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r3\_orders.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $l1\_struct.0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct.0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc \\
& X0))) \Rightarrow (\forall X1.(m1\_subset.1 X1 (k1\_zfmisc.1 (u1\_struct.0 \\
& X0))) \Rightarrow (\forall X2.(m1\_subset.1 X2 (k1\_zfmisc.1 (u1\_struct.0 \\
& X0))) \Rightarrow (((r1\_tarski X2 X1) \wedge ((v4\_pre\_topc X1 X0) \wedge (\forall X3.( \\
& m1\_subset.1 X3 (k1\_zfmisc.1 (u1\_struct.0 X0))) \Rightarrow ((r1\_tarski \\
& X2 X3) \wedge (v4\_pre\_topc X3 X0))) \Rightarrow (r1\_tarski X1 X3)))))) \Rightarrow (X1 = k2\_pre\_topc \\
& X0 X2)))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct.0 X0) \wedge ((v3\_orders.2 X0) \wedge ((v4\_orders.2 \\
& X0) \wedge ((v24\_waybel.0 X0) \wedge ((v4\_waybel11 X0) \wedge (l1\_waybel.9 X0)))))) \Rightarrow \\
& (\forall X1.(m1\_subset.1 X1 (k1\_zfmisc.1 (u1\_struct.0 X0))) \Rightarrow \\
& ((v4\_pre\_topc X1 X0) \Leftrightarrow ((v2\_waybel11 X1 X0) \wedge (v12\_waybel.0 X1 X0))))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2\_struct.0 X0) \wedge (l1\_orders.2 X0)) \Rightarrow (\forall X1. \\
& (m1\_subset.1 X1 (u1\_struct.0 X0)) \Rightarrow (\forall X2.((v12\_waybel.0 \\
& X2 X0) \wedge (m1\_subset.1 X2 (k1\_zfmisc.1 (u1\_struct.0 X0)))) \Rightarrow ((X1 \in \\
& X2) \Rightarrow (r1\_tarski (k5\_waybel.0 X0 X1) X2))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0) \Rightarrow (m1\_yellow\_9 X0 X0) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski (k1\_tarski X0) X1) \Leftrightarrow (X0 \in X1) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_orders\_2 X0)) \Rightarrow (\forall X1. \\ (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 \\ (u1\_struct\_0 X0)) \Rightarrow ((X2 \in k5\_waybel\_0 X0 X1) \Leftrightarrow (r1\_orders\_2 X0 X2 \\ X1)))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 X0) \wedge ((v4\_orders\_2 \\ X0) \wedge ((v5\_orders\_2 X0) \wedge ((v24\_waybel\_0 X0) \wedge ((v4\_waybel11 X0) \wedge \\ (l1\_waybel\_9 X0))))))) \Rightarrow (\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 \\ X0)) \Rightarrow (v4\_pre\_topc (k5\_waybel\_0 X0 X1) X0)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow (r3\_orders\_2 X0 X1 X1) \quad (8)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0) \wedge ((v3\_orders\_2 \\ X0) \wedge (l1\_orders\_2 X0))) \wedge ((m1\_subset\_1 X1 (u1\_struct\_0 X0)) \wedge \\ m1\_subset\_1 X2 (u1\_struct\_0 X0))) \Rightarrow ((r3\_orders\_2 X0 X1 X2) \Leftrightarrow (r1\_orders\_2 \\ X0 X1 X2)) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0) \wedge (m1\_subset\_1 X1 X0)) \Rightarrow \\ (k6\_domain\_1 X0 X1 = k1\_tarski X1) \quad (10)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0) \wedge (l1\_struct\_0 X0)) \Rightarrow (\neg v1\_xboole\_0 \\ (u1\_struct\_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.(l1\_waybel\_9 X0) \Rightarrow ((l1\_pre\_topc X0) \wedge (l1\_orders\_2 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(l1\_pre\_topc X0) \Rightarrow (l1\_struct\_0 X0) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 X0))\Rightarrow (m1\_subset\_1 (k6\_domain\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0 X0)\wedge(l1\_orders\_2 X0))\wedge (m1\_subset\_1 X1 (u1\_struct\_0 X0)))\Rightarrow(m1\_subset\_1 (k5\_waybel\_0 X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (15)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v24\_waybel\_0 X0)\wedge(l1\_orders\_2 X0))))))\Rightarrow (\forall X1.(m1\_yellow\_9 X1 X0)\Rightarrow((v4\_waybel11 X1)\Rightarrow(v2\_pre\_topc X1))) \quad (16)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v3\_orders\_2 X0)\wedge((v4\_orders\_2 X0)\wedge((v5\_orders\_2 X0)\wedge((v24\_waybel\_0 X0)\wedge((v4\_waybel11 X0)\wedge (l1\_waybel\_9 X0))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (u1\_struct\_0 X0))\Rightarrow(k2\_pre\_topc X0 (k6\_domain\_1 (u1\_struct\_0 X0) X1) = k5\_waybel\_0 X0 X1))$$