

t38\_waybel\_3  
(TMMAY9n2f8e7begjVw5zqCnaw5dYqDXtyUh)

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Let  $v2\_struct\_0 : \iota \Rightarrow o$  be given. Let  $v2\_pre\_topc : \iota \Rightarrow o$  be given. Let  $l1\_pre\_topc : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_yellow\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_pre\_topc : \iota \Rightarrow \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_waybel\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_tops\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $m1\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 (k2\_yellow\_1 (u1\_pre\_topc X0)))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 (k2\_yellow\_1 (u1\_pre\_topc X0)))) \Rightarrow ((\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (\neg (v1\_tops\_2 X3 X0) \wedge ((r1\_tarski X2 (k5\_setfam\_1 (u1\_struct\_0 X0) X3)) \wedge (\forall X4. ((v1\_finset\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 X3))) \Rightarrow (\neg r1\_tarski X1 (k3\_tarski X4)))))) \Rightarrow (r1\_waybel\_3 (k2\_yellow\_1 (u1\_pre\_topc X0)) X1 X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \Rightarrow (k5\_setfam\_1 X0 X1 = k3\_tarski X1) \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1 \\ (u1\_struct\_0\ X0))) \Rightarrow ((v2\_compts\_1\ X1\ X0) \Leftrightarrow (\forall X2.(m1\_subset\_1 \\ X2\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\neg(m1\_setfam\_1 \\ X2\ X1) \wedge ((v1\_tops\_2\ X2\ X0) \wedge (\forall X3.(m1\_subset\_1\ X3\ (k1\_zfmisc\_1 \\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \Rightarrow (\neg(r1\_tarski\ X3\ X2) \wedge ((m1\_setfam\_1 \\ X3\ X1) \wedge (v1\_finset\_1\ X3)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_setfam\_1\ X1\ X0) \Leftrightarrow (r1\_tarski\ X0\ (k3\_tarski\ X1)) \quad (6)$$

**Theorem 1**

$$\begin{aligned} \forall X0.((\neg v2\_struct\_0\ X0) \wedge ((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc \\ X0))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k2\_yellow\_1 \\ (u1\_pre\_topc\ X0)))) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0 \\ (k2\_yellow\_1\ (u1\_pre\_topc\ X0)))) \Rightarrow ((\exists X3.(m1\_subset\_1 \\ X3\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)) \wedge ((r1\_tarski\ X1\ X3) \wedge (r1\_tarski \\ X3\ X2) \wedge (v2\_compts\_1\ X3\ X0))) \Rightarrow (r1\_waybel\_3\ (k2\_yellow\_1\ (u1\_pre\_topc \\ X0))\ X1\ X2)))) \end{aligned}$$