

# t25\_tdlat\_2 (TMQThwuPZYd- PuhE3BR4jCH9iBYw7kicJ6Ad)

October 27, 2020

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  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tdlat\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_setfam\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_tarski : \iota \Rightarrow \iota$  be given. Let  $k1\_setfam\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarski X0 (k3\_tarski X1)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (r1\_tarski (k1\_setfam\_1 X1) X0) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow \\ & (k1\_tdlat\_2 X0 X1 = ReplSep (toSet (\lambda X2 : \iota. m1\_subset\_1 X2 ( \\ & k1\_zfmisc\_1 (u1\_struct\_0 X0)))) (\lambda X2 : \iota. \exists X3. (m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \wedge ((X2 = k1\_tops\_1 X0 X3) \wedge (X3 \in \\ & X1))) (\lambda X2 : \iota. X2))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \Rightarrow (k6\_setfam\_1 X0 X1 = k1\_setfam\_1 X1) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k1\_zfmisc\_1 X0))) \Rightarrow (k5\_setfam\_1 X0 X1 = k3\_tarski X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((l1\_pre\_topc X0) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \Rightarrow (k1\_tops\_1 X0 (k1\_tops\_1 X0 X1) = k1\_tops\_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k1\_tops\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))))\Rightarrow(m1\_subset\_1\ (k1\_tdlat\_2\ X0\ X1)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \quad (8)$$

**Theorem 1**

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow((X2\in X1)\Rightarrow((r1\_tarski\ (k1\_tops\_1\ X0\ X2)\ (k5\_setfam\_1\ (u1\_struct\_0\ X0)\ (k1\_tdlat\_2\ X0\ X1))))\wedge(r1\_tarski\ (k6\_setfam\_1\ (u1\_struct\_0\ X0)\ (k1\_tdlat\_2\ X0\ X1))\ (k1\_tops\_1\ X0\ X2))))))$$