

# t4\_tdlat\_2 (TMcEfjW- PDNwKy63mwsbQjMQHmeLndqwSEtT)

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  $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_tops\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\forall X0. \forall X1. r1\_tarski X0 (k2\_xboole\_0 X0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((v2\_pre\_topc X0) \wedge (l1\_pre\_topc X0)) \Rightarrow (\forall X1. \\ & (l1\_pre\_topc X1) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X0))) \Rightarrow (\forall X3. (m1\_subset\_1 X3 (k1\_zfmisc\_1 (u1\_struct\_0 \\ & X1))) \Rightarrow (((v3\_pre\_topc X3 X1) \Rightarrow (k1\_tops\_1 X1 X3 = X3)) \wedge ((k1\_tops\_1 \\ & X0 X2 = X2) \Rightarrow (v3\_pre\_topc X2 X0)))))) \end{aligned} \quad (2)$$

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.

$$\begin{aligned} & \forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow (\forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 \\ & (u1\_struct\_0 X0))) \Rightarrow ((r1\_tarski X1 X2) \Rightarrow (r1\_tarski (k1\_tops\_1 \\ & X0 X1) (k1\_tops\_1 X0 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. (l1\_pre\_topc X0) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (r1\_tarski X1 (k2\_pre\_topc X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(k4\_subset\_1 X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0))\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 X0)))\Rightarrow(m1\_subset\_1 (k4\_subset\_1 X0 X1 X2) (k1\_zfmisc\_1 X0)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))))\Rightarrow(m1\_subset\_1 (k2\_pre\_topc X0 X1) (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \quad (8)$$

**Theorem 1**

$$\forall X0.((v2\_pre\_topc X0)\wedge(l1\_pre\_topc X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(((v3\_pre\_topc X1 X0)\wedge(k1\_tops\_1 X0 (k2\_pre\_topc X0 (k4\_subset\_1 (u1\_struct\_0 X0) X1 X2)) = X2))\Rightarrow(r1\_tarski X1 X2))))$$