t28_tdlat_3 (TMThS5aobKMjS9EDmyK4YgVtzuaEqxzDfTt)

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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 $v4\_tdlat\_3 : \iota \Rightarrow o$ 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 $r1\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \Rightarrow (\forall X1.\ (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (\forall X2.\ (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (((r1\_xboole\_0\ X1\ X2) \wedge (v3\_pre\_topc\ X1\ X0)) \Rightarrow (r1\_xboole\_0\ X1\ (k2\_pre\_topc\ X0\ X2))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (\forall X2.\ (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ X0)) \Rightarrow ((r1\_xboole\_0\ X1\ (k3\_subset\_1\ X0\ X2)) \Leftrightarrow (r1\_tarski\ X1\ X2))) \tag{2}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \Rightarrow (r1\_tarski\ X1\ (k2\_pre\_topc\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(r1\_xboole\_0\ X0\ X1) \Rightarrow (r1\_xboole\_0\ X1\ X0) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0)) \Rightarrow (k3\_subset\_1\ X0\ (k3\_subset\_1\ X0\ X1) = X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0) \wedge (l1\_pre\_topc\ X0)) \wedge ((v4\_pre\_topc\ X1\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))) \Rightarrow (v3\_pre\_topc\ (k3\_subset\_1\ (u1\_struct\_0\ X0)\ X1)\ X0) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(v4\_pre\_topc\ (k2\_pre\_topc\ X0\ X1)\ X0) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X0))\Rightarrow(m1\_subset\_1\ (k3\_subset\_1\ X0\ X1)\ (k1\_zfmisc\_1\ X0)) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.((l1\_pre\_topc\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(m1\_subset\_1\ (k2\_pre\_topc\ X0\ X1)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))) \tag{9}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow((v4\_tdlat\_3\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow((v3\_pre\_topc\ X1\ X0)\Rightarrow(v3\_pre\_topc\ (k2\_pre\_topc\ X0\ X1)\ X0)))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1)\Leftrightarrow((r1\_tarski\ X0\ X1)\wedge(r1\_tarski\ X1\ X0)) \tag{11}$$

Theorem 1

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow((v4\_tdlat\_3\ X0)\Leftrightarrow(\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))\Rightarrow(((v3\_pre\_topc\ X1\ X0)\wedge((v3\_pre\_topc\ X2\ X0)\wedge(r1\_xboole\_0\ X1\ X2)))\Rightarrow(r1\_xboole\_0\ (k2\_pre\_topc\ X0\ X1)\ (k2\_pre\_topc\ X0\ X2))))))$$