t1_real_lat (TMX7ZJmW9LQZdMBfwLMUP4RnGFymNZnf7XR)

October 27, 2020

Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k3\_real\_lat : \iota$ be given. Let $k1\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_real\_lat : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k5\_binop\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v4\_lattices : \iota \Rightarrow o$ be given. Let $l2\_lattices : \iota \Rightarrow o$ be given. Let $k3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g3\_lattices : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3\_lattices : \iota \Rightarrow o$ be given. Let $v10\_lattices : \iota \Rightarrow o$ be given. Let $u2\_lattices : \iota \Rightarrow \iota$ be given. Let $l3\_lattices : \iota \Rightarrow o$ be given. Let $l1\_lattices : \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_real\_lat : \iota$ be given. Let $v5\_lattices : \iota \Rightarrow o$ be given. Let $v6\_lattices : \iota \Rightarrow o$ be given. Let $v7\_lattices : \iota \Rightarrow o$ be given. Let $v8\_lattices : \iota \Rightarrow o$ be given. Let $v9\_lattices : \iota \Rightarrow o$ be given. Let $u1\_lattices : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X1) \wedge ((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))) \wedge ((m1\_subset\_1\ X2\ X0) \wedge (m1\_subset\_1\ X3\ X0))) \Rightarrow (k5\_binop\_1\ X0\ X1\ X2\ X3 = k1\_binop\_1\ X1\ X2\ X3) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0) \wedge ((v4\_lattices\ X0) \wedge (l2\_lattices\ X0))) \wedge ((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \wedge (m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)))) \Rightarrow (k3\_lattices\ X0\ X1\ X2 = k1\_lattices\ X0\ X1\ X2) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0)))))\wedge((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (k2\_zfmisc\_1\ X0\ X0)\ X0)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X0)\ X0))))))\Rightarrow(\forall X3.\forall X4.\forall X5.(g3\_lattices\ X0\ X1\ X2 = g3\_lattices\ X3\ X4\ X5)\Rightarrow((X0 = X3)\wedge((X1 = X4)\wedge(X2 = X5)))) \tag{3}$$

Assume the following.

$$(v3\_lattices\ k3\_real\_lat)\wedge(v10\_lattices\ k3\_real\_lat) \tag{4}$$

Assume the following.

$$(\neg v2\_struct\_0\ k3\_real\_lat)\wedge(v3\_lattices\ k3\_real\_lat) \tag{5}$$

Assume the following.

$$\forall X0.(l2\_lattices\ X0)\Rightarrow((v1\_funct\_1\ (u2\_lattices\ X0))\wedge((v1\_funct\_2\ (u2\_lattices\ X0)\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ (u2\_lattices\ X0)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X0))\ (u1\_struct\_0\ X0)))))) \tag{6}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow((l1\_lattices\ X0)\wedge(l2\_lattices\ X0)) \tag{7}$$

Assume the following.

$$(v3\_lattices\ k3\_real\_lat)\wedge(l3\_lattices\ k3\_real\_lat) \tag{8}$$

Assume the following.

$$(v1\_funct\_1\ k2\_real\_lat)\wedge((v1\_funct\_2\ k2\_real\_lat\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)\wedge(m1\_subset\_1\ k2\_real\_lat\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)))) \tag{9}$$

Assume the following.

$$(v1\_funct\_1\ k1\_real\_lat)\wedge((v1\_funct\_2\ k1\_real\_lat\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)\wedge(m1\_subset\_1\ k1\_real\_lat\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)\ k1\_numbers)))) \tag{10}$$

Assume the following.

$$k3\_real\_lat = g3\_lattices\ k1\_numbers\ k2\_real\_lat\ k1\_real\_lat \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l2\_lattices\ X0))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))\Rightarrow(k1\_lattices\ X0\ X1\ X2 = k5\_binop\_1\ (u1\_struct\_0\ X0)\ (u2\_lattices\ X0)\ X1\ X2))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0\ X0)\wedge((v4\_lattices\ X0)\wedge(l2\_lattices\ X0)))\wedge((m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\wedge(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0))))\Rightarrow(k3\_lattices\ X0\ X1\ X2 = k3\_lattices\ X0\ X2\ X1) \tag{13}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow(((\neg v2\_struct\_0\ X0)\wedge(v10\_lattices\ X0))\Rightarrow((\neg v2\_struct\_0\ X0)\wedge((v4\_lattices\ X0)\wedge((v5\_lattices\ X0)\wedge((v6\_lattices\ X0)\wedge((v7\_lattices\ X0)\wedge((v8\_lattices\ X0)\wedge(v9\_lattices\ X0))))))) \tag{14}$$

Assume the following.

$$\forall X0.(l3\_lattices\ X0)\Rightarrow((v3\_lattices\ X0)\Rightarrow(X0 = g3\_lattices\ (u1\_struct\_0\ X0)\ (u2\_lattices\ X0)\ (u1\_lattices\ X0))) \tag{15}$$

Theorem 1

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ k3\_real\_lat))\Rightarrow(\forall X1.\ (m1\_subset\_1\ X1\ (u1\_struct\_0\ k3\_real\_lat))\Rightarrow(k1\_binop\_1\ k2\_real\_lat\ X0\ X1 = k1\_binop\_1\ k2\_real\_lat\ X1\ X0))$$