# t42_fvaluat1 (TMFs3DioHHDu47f5CJNxzGT2DmxzQhEAq1t)

October 27, 2020

Let $v2\_struct\_0 : \iota \Rightarrow o$ be given. Let $v6\_struct\_0 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v3\_group\_1 : \iota \Rightarrow o$ be given. Let $v5\_vectsp\_1 : \iota \Rightarrow o$ be given. Let $v2\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v3\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v4\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_realset2 : \iota \Rightarrow o$ be given. Let $l6\_algstr\_0 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $m1\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_fvaluat1 : \iota \Rightarrow o$ be given. Let $v3\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_numbers : \iota$ be given. Let $k5\_fvaluat1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $k4\_xxreal\_3 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ 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 $v2\_fvaluat1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l5\_algstr\_0 : \iota \Rightarrow o$ be given. Let $l2\_struct\_0 : \iota \Rightarrow o$ be given. Let $l1\_algstr\_0 : \iota \Rightarrow o$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_membered : \iota \Rightarrow o$ be given. Let $k1\_fvaluat1 : \iota \Rightarrow \iota$ be given. Let $v1\_fvaluat1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0) \wedge (l1\_struct\_0\ X0)) \Rightarrow (\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (\neg v3\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (\neg v3\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (\neg v3\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_xxreal\_0\ X0) \wedge (v2\_xxreal\_0\ X0)) \wedge ((v1\_xxreal\_0\ X1) \wedge (v3\_xxreal\_0\ X1))) \Rightarrow ((v1\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1)) \wedge (v3\_xxreal\_0\ (k4\_xxreal\_3\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow(\forall X1.(m1\_fvaluat1\ X1\ X0)\Rightarrow ((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ (u1\_struct\_0\ X0)\ k7\_numbers)\wedge ((v2\_fvaluat1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ k7\_numbers)))))))) \tag{4}$$

Assume the following.

$$\forall X0.(l6\_algstr\_0\ X0)\Rightarrow((l2\_algstr\_0\ X0)\wedge(l5\_algstr\_0\ X0)) \tag{5}$$

Assume the following.

$$\forall X0.(l2\_struct\_0\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{6}$$

Assume the following.

$$\forall X0.(l2\_algstr\_0\ X0)\Rightarrow((l2\_struct\_0\ X0)\wedge(l1\_algstr\_0\ X0)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge ((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v1\_realset2\ X0)\wedge (l6\_algstr\_0\ X0))))))))))\wedge(m1\_fvaluat1\ X1\ X0))\Rightarrow(m1\_fvaluat1\ (k5\_fvaluat1\ X0\ X1)\ X0) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0)\wedge (((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ X0\ X1)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\wedge(m1\_subset\_1\ X3\ X0)))\Rightarrow(m1\_subset\_1\ (k3\_funct\_2\ X0\ X1\ X2\ X3)\ X1) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge(v5\_relat\_1\ X1\ X0))\Rightarrow( m1\_subset\_1\ (k2\_relset\_1\ X0\ X1)\ (k1\_zfmisc\_1\ X0)) \tag{10}$$

Assume the following.

$$\forall X0.(v2\_membered\ X0)\Rightarrow((v2\_xxreal\_0\ (k1\_fvaluat1\ X0))\wedge (v1\_fvaluat1\ (k1\_fvaluat1\ X0))) \tag{11}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v1\_realset2\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.(m1\_fvaluat1\ X1\ X0)\Rightarrow((v3\_fvaluat1\ X0)\Rightarrow(\forall X2.(m1\_fvaluat1\ X2\ X0)\Rightarrow((X2 = k5\_fvaluat1\ X0\ X1)\Leftrightarrow (\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ X1\ X3 = k4\_xxreal\_3\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ X2\ X3)\ (k1\_fvaluat1\ (k2\_relset\_1\ k7\_numbers\ X1)))))))) \tag{12}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xxreal\_0\ X0)\wedge(v1\_xxreal\_0\ X1))\Rightarrow(k4\_xxreal\_3\ X0\ X1 = k4\_xxreal\_3\ X1\ X0) \tag{13}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k7\_numbers))\Rightarrow(v2\_membered\ X0) \tag{14}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0)\wedge(v3\_xxreal\_0\ X0))\Rightarrow((\neg v1\_xboole\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(\neg v2\_xxreal\_0\ X0))) \tag{15}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k7\_numbers)\Rightarrow(v1\_xxreal\_0\ X0) \tag{17}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{18}$$

Assume the following.

$$\forall X0.(v1\_fvaluat1\ X0)\Rightarrow(v1\_xxreal\_0\ X0) \tag{19}$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((\neg v6\_struct\_0\ X0)\wedge((v13\_algstr\_0\ X0)\wedge((v3\_group\_1\ X0)\wedge((v5\_vectsp\_1\ X0)\wedge((v2\_rlvect\_1\ X0)\wedge((v3\_rlvect\_1\ X0)\wedge((v4\_rlvect\_1\ X0)\wedge((v1\_realset2\ X0)\wedge(l6\_algstr\_0\ X0))))))))))\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0))\Rightarrow(\forall X2.(m1\_fvaluat1\ X2\ X0)\Rightarrow((v3\_fvaluat1\ X0)\Rightarrow((\neg(\neg v3\_xxreal\_0\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ X2\ X1))\wedge(v3\_xxreal\_0\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ (k5\_fvaluat1\ X0\ X2)\ X1)))\wedge(\neg(\neg v3\_xxreal\_0\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ (k5\_fvaluat1\ X0\ X2)\ X1))\wedge(v3\_xxreal\_0\ (k3\_funct\_2\ (u1\_struct\_0\ X0)\ k7\_numbers\ X2\ X1)))))))$$