t7_tops_4 (TMdf9UmA7dThntJiHGZunDe1Hw8kYxGtrv8)

October 27, 2020

Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. 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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k15\_euclid : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_t\_0topsp : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_pre\_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_topreal9 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14\_euclid : \iota \Rightarrow \iota$ be given. Let $v6\_metric\_1 : \iota \Rightarrow o$ be given. Let $v7\_metric\_1 : \iota \Rightarrow o$ be given. Let $v8\_metric\_1 : \iota \Rightarrow o$ be given. Let $v9\_metric\_1 : \iota \Rightarrow o$ be given. Let $l1\_metric\_1 : \iota \Rightarrow o$ be given. Let $k3\_pcomps\_1 : \iota \Rightarrow \iota$ be given. Let $k9\_metric\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $g1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u1\_pre\_topc : \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v2\_monoid\_0 : \iota \Rightarrow o$ be given. Let $v5\_rltopsp1 : \iota \Rightarrow o$ be given. Let $v13\_algstr\_0 : \iota \Rightarrow o$ 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 $v5\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v6\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v7\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v8\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $v1\_metric\_1 : \iota \Rightarrow o$ be given. Let $l1\_struct\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_pre\_topc : \iota \Rightarrow o$ be given. Let $l1\_rltopsp1 : \iota \Rightarrow o$ be given. Let $l1\_rlvect\_1 : \iota \Rightarrow o$ be given. Let $g1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $u2\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_algstr\_0 : \iota \Rightarrow \iota$ be given. Let $u1\_rlvect\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_funcsdom : \iota \Rightarrow \iota$ be given. Let $k2\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_pcomps\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (u1\_struct\_0\ (k14\_euclid\ X0) = u1\_struct\_0\ (k15\_euclid\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0)))\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v6\_metric\_1\ X1)\wedge((v7\_metric\_1\ X1)\wedge((v8\_metric\_1\ X1)\wedge((v9\_metric\_1\ X1)\wedge(l1\_metric\_1\ X1)))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k3\_pcomps\_1\ X1)))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k3\_pcomps\_1\ X1)))))))\Rightarrow((v1\_t\_0topsp\ X2\ X0\ (k3\_pcomps\_1\ X1))\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X0))\Rightarrow(\forall X4.((v3\_pre\_topc\ X4\ X0)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0))))\Rightarrow(\forall X5.(m1\_subset\_1\ X5\ (u1\_struct\_0\ X1))\Rightarrow(\neg(X5 = k3\_funct\_2\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k3\_pcomps\_1\ X1))\ X2\ X3)\wedge((X3 \in X4)\wedge(\forall X6.((v1\_xreal\_0\ X6)\wedge(v2\_xxreal\_0\ X6))\Rightarrow(\neg r1\_tarski\ (k9\_metric\_1\ X1\ X5\ X6)\ (k7\_relset\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ (k3\_pcomps\_1\ X1))\ X2\ X4)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.((v2\_pre\_topc\ X0)\wedge(l1\_pre\_topc\ X0))\Rightarrow(\forall X1.((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1))\Rightarrow(\forall X2.((v2\_pre\_topc\ X2)\wedge(l1\_pre\_topc\ X2))\Rightarrow(\forall X3.((v2\_pre\_topc\ X3)\wedge(l1\_pre\_topc\ X3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X0)\ (u1\_struct\_0\ X2))))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge((v1\_funct\_2\ X5\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ X3))))))\Rightarrow(((g1\_pre\_topc\ (u1\_struct\_0\ X0)\ (u1\_pre\_topc\ X0) = g1\_pre\_topc\ (u1\_struct\_0\ X1)\ (u1\_pre\_topc\ X1))\wedge((g1\_pre\_topc\ (u1\_struct\_0\ X2)\ (u1\_pre\_topc\ X2) = g1\_pre\_topc\ (u1\_struct\_0\ X3)\ (u1\_pre\_topc\ X3))\wedge((X4 = X5)\wedge(v1\_t\_0topsp\ X4\ X0\ X2))))\Rightarrow(v1\_t\_0topsp\ X5\ X1\ X3))))))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1)\Rightarrow(m1\_subset\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k5\_numbers)\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ X0)))\Rightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ (k14\_euclid\ X0)))\Rightarrow((X2 = X3)\Rightarrow(k9\_metric\_1\ (k14\_euclid\ X0)\ X3\ X1 = k1\_topreal9\ X0\ X2\ X1))))) \tag{5}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0)))\Rightarrow(\forall X2.\forall X3.(g1\_pre\_topc\ X0\ X1 = g1\_pre\_topc\ X2\ X3)\Rightarrow((X0 = X2)\wedge(X1 = X3))) \tag{7}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v2\_monoid\_0\ (k15\_euclid\ X0))\wedge(v5\_rltopsp1\ (k15\_euclid\ X0))) \tag{8}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((v2\_pre\_topc\ (k15\_euclid\ X0))\wedge((v13\_algstr\_0\ (k15\_euclid\ X0))\wedge((v2\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v3\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v4\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v5\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v6\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v7\_rlvect\_1\ (k15\_euclid\ X0))\wedge((v8\_rlvect\_1\ (k15\_euclid\ X0))\wedge(v5\_rltopsp1\ (k15\_euclid\ X0)))))))))) \tag{9}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow((\neg v2\_struct\_0\ (k14\_euclid\ X0))\wedge((v1\_metric\_1\ (k14\_euclid\ X0))\wedge((v6\_metric\_1\ (k14\_euclid\ X0))\wedge((v7\_metric\_1\ (k14\_euclid\ X0))\wedge((v8\_metric\_1\ (k14\_euclid\ X0))\wedge(v9\_metric\_1\ (k14\_euclid\ X0))))))) \tag{10}$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0\ X0)\wedge(l1\_struct\_0\ X0))\Rightarrow(\neg v1\_xboole\_0\ (u1\_struct\_0\ X0)) \tag{11}$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0)\Rightarrow((v1\_pre\_topc\ (k3\_pcomps\_1\ X0))\wedge(v2\_pre\_topc\ (k3\_pcomps\_1\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(m1\_subset\_1\ (u1\_pre\_topc\ X0)\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X0)))) \tag{13}$$

Assume the following.

$$\forall X0.(l1\_rltopsp1\ X0)\Rightarrow((l1\_rlvect\_1\ X0)\wedge(l1\_pre\_topc\ X0)) \tag{14}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0)\Rightarrow(l1\_struct\_0\ X0) \tag{15}$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0) \Rightarrow (l1\_pre\_topc\ (k3\_pcomps\_1\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((\neg v1\_xboole\_0\ X0) \wedge (((v1\_funct\_1\ X2) \wedge ((v1\_funct\_2\ X2\ X0\ X1) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))) \wedge (m1\_subset\_1\ X3\ X0))) \Rightarrow (m1\_subset\_1\ (k3\_funct\_2\ X0\ X1\ X2\ X3)\ X1) \tag{17}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v5\_rltopsp1\ (k15\_euclid\ X0)) \wedge (l1\_rltopsp1\ (k15\_euclid\ X0))) \tag{18}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow ((v1\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v6\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v7\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v8\_metric\_1\ (k14\_euclid\ X0)) \wedge ((v9\_metric\_1\ (k14\_euclid\ X0)) \wedge (l1\_metric\_1\ (k14\_euclid\ X0))))))) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k1\_zfmisc\_1\ X0))) \Rightarrow ((v1\_pre\_topc\ (g1\_pre\_topc\ X0\ X1)) \wedge (l1\_pre\_topc\ (g1\_pre\_topc\ X0\ X1))) \tag{20}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (\forall X1.((v5\_rltopsp1\ X1) \wedge (l1\_rltopsp1\ X1)) \Rightarrow ((X1 = k15\_euclid\ X0) \Leftrightarrow ((g1\_pre\_topc\ (u1\_struct\_0\ X1)\ (u1\_pre\_topc\ X1) = k3\_pcomps\_1\ (k14\_euclid\ X0)) \wedge (g1\_rlvect\_1\ (u1\_struct\_0\ X1)\ (u2\_struct\_0\ X1)\ (u1\_algstr\_0\ X1)\ (u1\_rlvect\_1\ X1) = k10\_funcsdom\ (k2\_finseq\_1\ X0))))) \tag{21}$$

Assume the following.

$$\forall X0.(l1\_metric\_1\ X0) \Rightarrow (k3\_pcomps\_1\ X0 = g1\_pre\_topc\ (u1\_struct\_0\ X0)\ (k2\_pcomps\_1\ X0)) \tag{22}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Leftrightarrow (X0 \in k4\_ordinal1) \tag{23}$$

Assume the following.

$$\forall X0.(l1\_pre\_topc\ X0) \Rightarrow ((v1\_pre\_topc\ X0) \Rightarrow (X0 = g1\_pre\_topc\ (u1\_struct\_0\ X0)\ (u1\_pre\_topc\ X0))) \tag{24}$$

Theorem 1

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(\forall X1.((\neg v2\_struct\_0\ X1)\wedge((v2\_pre\_topc\ X1)\wedge(l1\_pre\_topc\ X1)))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ X0)))\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ X0))))))\Rightarrow((v1\_t\_0topsp\ X2\ X1\ (k15\_euclid\ X0))\Leftrightarrow(\forall X3.(m1\_subset\_1\ X3\ (u1\_struct\_0\ X1))\Rightarrow(\forall X4.((v3\_pre\_topc\ X4\ X1)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (u1\_struct\_0\ X1))))\Rightarrow(\neg(X3\in X4)\wedge(\forall X5.((v1\_xreal\_0\ X5)\wedge(v2\_xxreal\_0\ X5))\Rightarrow(\neg r1\_tarski\ (k1\_topreal9\ X0\ (k3\_funct\_2\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ X0))\ X2\ X3)\ X5)\ (k7\_relset\_1\ (u1\_struct\_0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ X0))\ X2\ X4)))))))))$$