# t55_pscomp_1 (TMGYvowsxiBefLFxmAkoRfKr1871p8Kp76w)

October 27, 2020

Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1\_struct\_0 : \iota \Rightarrow \iota$ be given. Let $k15\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k17\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k18\_euclid : \iota \Rightarrow \iota$ be given. Let $k25\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_compts\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17\_euclid : \iota \Rightarrow \iota$ be given. Let $k24\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k19\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pre\_topc : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4\_pscomp\_1 : \iota$ be given. Let $k2\_pscomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_pscomp\_1 : \iota$ be given. Let $k9\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $k8\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Let $k13\_pscomp\_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1\_xboole\_0\ X1) \tag{1}$$

Assume the following.

$$\begin{gathered}\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow \\ (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow \\ (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow \\ (((X0 \in k1\_rltopsp1\ (k15\_euclid\ np\_\_2)\ X1\ X2) \wedge (k18\_euclid\ X1 = k18\_euclid \\ X2)) \Rightarrow (k18\_euclid\ X0 = k18\_euclid\ X2))))\end{gathered} \tag{2}$$

Assume the following.

$$\begin{gathered}\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow ((k17\_euclid \\ (k19\_euclid\ X0\ X1) = X0) \wedge (k18\_euclid\ (k19\_euclid\ X0\ X1) = X1)))\end{gathered} \tag{3}$$

Assume the following.

$$\begin{gathered}\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ X0)) \Rightarrow (k9\_subset\_1\ X0\ X1\ X2 = k3\_xboole\_0\ X1\ X2)\end{gathered} \tag{4}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))\Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1)\wedge((v2\_compts\_1\ X1\ (k15\_euclid\ np\_\_2))\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))))\Rightarrow((X0\in X1)\Rightarrow((r1\_xxreal\_0\ (k1\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X1)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ X1))\ (k17\_euclid\ X0))\wedge((r1\_xxreal\_0\ (k17\_euclid\ X0)\ (k2\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X1)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ X1)))\wedge((r1\_xxreal\_0\ (k1\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X1)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k5\_pscomp\_1\ X1))\ (k18\_euclid\ X0))\wedge(r1\_xxreal\_0\ (k18\_euclid\ X0)\ (k2\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X1)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k5\_pscomp\_1\ X1)))))))) \tag{5}$$

Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0)\wedge((v2\_compts\_1\ X0\ (k15\_euclid\ np\_\_2))\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))))\Rightarrow((\neg v1\_xboole\_0\ (k17\_pscomp\_1\ X0))\wedge(v2\_compts\_1\ (k17\_pscomp\_1\ X0)\ (k15\_euclid\ np\_\_2))) \tag{6}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(m1\_subset\_1\ (k9\_pscomp\_1\ X0)\ k1\_numbers) \tag{7}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(m1\_subset\_1\ (k8\_pscomp\_1\ X0)\ k1\_numbers) \tag{8}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(m1\_subset\_1\ (k6\_pscomp\_1\ X0)\ k1\_numbers) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(m1\_subset\_1\ (k19\_euclid\ X0\ X1)\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \tag{10}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(m1\_subset\_1\ (k17\_pscomp\_1\ X0)\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2)))) \tag{11}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k8\_pscomp\_1\ X0 = k2\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X0)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ X0)) \tag{12}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k6\_pscomp\_1\ X0 = k1\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ X0)\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ X0)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{14}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k25\_pscomp\_1\ X0 = k19\_euclid\ (k1\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ (k17\_pscomp\_1\ X0))\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ (k17\_pscomp\_1\ X0)))\ (k9\_pscomp\_1\ X0)) \tag{15}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k24\_pscomp\_1\ X0 = k19\_euclid\ (k2\_pscomp\_1\ (k1\_pre\_topc\ (k15\_euclid\ np\_\_2)\ (k17\_pscomp\_1\ X0))\ (k3\_pscomp\_1\ (k15\_euclid\ np\_\_2)\ k4\_pscomp\_1\ (k17\_pscomp\_1\ X0)))\ (k9\_pscomp\_1\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k17\_pscomp\_1\ X0 = k9\_subset\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))\ (k1\_rltopsp1\ (k15\_euclid\ np\_\_2)\ (k10\_pscomp\_1\ X0)\ (k13\_pscomp\_1\ X0))\ X0) \tag{17}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k13\_pscomp\_1\ X0 = k19\_euclid\ (k8\_pscomp\_1\ X0)\ (k9\_pscomp\_1\ X0)) \tag{18}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))\Rightarrow(k10\_pscomp\_1\ X0 = k19\_euclid\ (k6\_pscomp\_1\ X0)\ (k9\_pscomp\_1\ X0)) \tag{19}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{20}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xreal\_0\ X0) \tag{21}$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))) \Rightarrow (\forall X1.((\neg v1\_xboole\_0\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (u1\_struct\_0\ (k15\_euclid\ np\_\_2))))) \Rightarrow ((X0 \in k17\_pscomp\_1\ X1) \Rightarrow ((k18\_euclid\ X0 = k18\_euclid\ (k25\_pscomp\_1\ X1)) \wedge ((v2\_compts\_1\ X1\ (k15\_euclid\ np\_\_2)) \Rightarrow ((r1\_xxreal\_0\ (k17\_euclid\ (k25\_pscomp\_1\ X1))\ (k17\_euclid\ X0)) \wedge (r1\_xxreal\_0\ (k17\_euclid\ X0)\ (k17\_euclid\ (k24\_pscomp\_1\ X1)))))))))$$