

t39_pscomp_1 (TM-
cBvA5c5oSZEp7wpRTWWzXXYTtKBvFRre1A)

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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 $k15_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $k20_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ be given. Let $k21_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k8_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k7_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k6_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k11_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k12_pscomp_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0. \forall X1. \neg (X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X1. (m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (\forall X2. (m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\ & (((X0 \in k1_rltopsp1 (k15_euclid np_2) X1 X2) \wedge (k18_euclid X1 = k18_euclid \\ & X2)) \Rightarrow (k18_euclid X0 = k18_euclid X2)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (\forall X1. (v1_xreal_0 X1) \Rightarrow ((k17_euclid (k19_euclid X0 X1) = X0) \wedge (k18_euclid (k19_euclid X0 X1) = X1))) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 X0)) \Rightarrow (k9_subset_1 X0 X1 X2 = k3_xboole_0 X1 X2) \quad (4)$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge ((v2_compts_1 X1 (k15_euclid \\
& np_2)) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
& np_2)))))) \Rightarrow ((X0 \in X1) \Rightarrow ((r1_xxreal_0 (k1_pscomp_1 (k1_pre_topc \\
& (k15_euclid np_2) X1) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 \\
& X1)) (k17_euclid X0)) \wedge ((r1_xxreal_0 (k17_euclid X0) (k2_pscomp_1 \\
& (k1_pre_topc (k15_euclid np_2) X1) (k3_pscomp_1 (k15_euclid \\
& np_2) k4_pscomp_1 X1))) \wedge ((r1_xxreal_0 (k1_pscomp_1 (k1_pre_topc \\
& (k15_euclid np_2) X1) (k3_pscomp_1 (k15_euclid np_2) k5_pscomp_1 \\
& X1)) (k18_euclid X0)) \wedge (r1_xxreal_0 (k18_euclid X0) (k2_pscomp_1 \\
& (k1_pre_topc (k15_euclid np_2) X1) (k3_pscomp_1 (k15_euclid \\
& np_2) k5_pscomp_1 X1)))))))))
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_compts_1 X0 (k15_euclid np_2)) \wedge \\
& (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow \\
& ((\neg v1_xboole_0 (k15_pscomp_1 X0)) \wedge (v2_compts_1 (k15_pscomp_1 \\
& X0) (k15_euclid np_2)))
\end{aligned} \tag{6}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k8_pscomp_1 X0) k1_numbers) \tag{7}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (m1_subset_1 (k7_pscomp_1 X0) k1_numbers) \tag{8}$$

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.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
& np_2)))) \Rightarrow (m1_subset_1 (k15_pscomp_1 X0) (k1_zfmisc_1 (u1_struct_0 \\
& (k15_euclid np_2))))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k8_pscomp_1 X0 = k2_pscomp_1 (k1_pre_topc (k15_euclid np_2) X0) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k6_pscomp_1 X0 = k1_pscomp_1 (k1_pre_topc (k15_euclid np_2) X0) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3_xboole_0 X0 X1) \Leftrightarrow (\forall X3. (X3 \in X2) \Leftrightarrow ((X3 \in X0) \wedge (X3 \in X1))) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k21_pscomp_1 X0 = k19_euclid (k2_pscomp_1 (k1_pre_topc (k15_euclid np_2) (k15_pscomp_1 X0)) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 (k15_pscomp_1 X0))) (k7_pscomp_1 X0)) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k20_pscomp_1 X0 = k19_euclid (k1_pscomp_1 (k1_pre_topc (k15_euclid np_2) (k15_pscomp_1 X0)) (k3_pscomp_1 (k15_euclid np_2) k4_pscomp_1 (k15_pscomp_1 X0))) (k7_pscomp_1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k15_pscomp_1 X0 = k9_subset_1 (u1_struct_0 (k15_euclid np_2) (k1_rltopsp1 (k15_euclid np_2) (k11_pscomp_1 X0) (k12_pscomp_1 X0)) X0)) \quad (17)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k12_pscomp_1 X0 = k19_euclid (k8_pscomp_1 X0) (k7_pscomp_1 X0)) \quad (18)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow (k11_pscomp_1 X0 = k19_euclid (k6_pscomp_1 X0) (k7_pscomp_1 X0)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.k3_xboole_0 X0 X1 = k3_xboole_0 X1 X0 \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ & (\forall X1.((\neg v1_xboole_0 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & (u1_struct_0 (k15_euclid np_2))))))\Rightarrow((X0 \in k15_pscomp_1 X1)\Rightarrow \\ & ((k18_euclid X0 = k18_euclid (k20_pscomp_1 X1))\wedge((v2_compts_1 \\ & X1 (k15_euclid np_2))\Rightarrow((r1_xxreal_0 (k17_euclid (k20_pscomp_1 \\ & X1)) (k17_euclid X0))\wedge(r1_xxreal_0 (k17_euclid X0) (k17_euclid \\ & (k21_pscomp_1 X1)))))))))) \end{aligned}$$