

t40_pscomp_1
(TMFp5XGupAZWckq1CwN9PzBT1cwqR4GmnjQ)

October 27, 2020

Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_compts_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k15_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k1_rltopsp1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k21_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $k11_pscomp_1 : \iota \Rightarrow \iota$ be given. Let $k12_pscomp_1 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X2.(m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (((r1_xxreal_0 (k17_euclid X0) (k17_euclid X1)) \wedge ((r1_xxreal_0 \\
& (k17_euclid X1) (k17_euclid X2)) \wedge ((k18_euclid X0 = k18_euclid \\
& X1) \wedge (k18_euclid X1 = k18_euclid X2)))) \Rightarrow (X1 \in k1_rltopsp1 (k15_euclid \\
& np_2) X0 X2))))
\end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 X2))) \Rightarrow (m1_subset_1 X0 X2) \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow \\
& (\forall X1.((\neg v1_xboole_0 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\
& (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow ((X0 \in k15_pscomp_1 X1) \Rightarrow \\
& ((k18_euclid X0 = k18_euclid (k20_pscomp_1 X1)) \wedge ((v2_compts_1 \\
& X1 (k15_euclid np_2)) \Rightarrow ((r1_xxreal_0 (k17_euclid (k20_pscomp_1 \\
& X1)) (k17_euclid X0)) \wedge (r1_xxreal_0 (k17_euclid X0) (k17_euclid \\
& (k21_pscomp_1 X1))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow ((k18_euclid (k11_pscomp_1 X0) = k18_euclid (k20_pscomp_1 \\ X0)) \wedge ((k18_euclid (k11_pscomp_1 X0) = k18_euclid (k21_pscomp_1 \\ X0)) \wedge ((k18_euclid (k20_pscomp_1 X0) = k18_euclid (k21_pscomp_1 \\ X0)) \wedge ((k18_euclid (k20_pscomp_1 X0) = k18_euclid (k12_pscomp_1 \\ X0)) \wedge (k18_euclid (k21_pscomp_1 X0) = k18_euclid (k12_pscomp_1 \\ X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (m1_subset_1 (k21_pscomp_1 X0) (u1_struct_0 (k15_euclid \\ np_2))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (m1_subset_1 (k20_pscomp_1 X0) (u1_struct_0 (k15_euclid \\ np_2))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\ np_2)))) \Rightarrow (m1_subset_1 (k15_pscomp_1 X0) (k1_zfmisc_1 (u1_struct_0 \\ (k15_euclid np_2)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(r1_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow \\ (X2 \in X1)) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} \forall X0.((\neg v1_xboole_0 X0) \wedge ((v2_compts_1 X0 (k15_euclid np_2)) \wedge \\ (m1_subset_1 X0 (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2)))))) \Rightarrow \\ (r1_tarski (k15_pscomp_1 X0) (k1_rltopsp1 (k15_euclid np_2) \\ (k20_pscomp_1 X0) (k21_pscomp_1 X0))) \end{aligned}$$