

t66_convex4

(TMbF3fkrPk7dQDF6bZJtejEKaQZgiyAJWQc)

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Let $v2_struct_0 : \iota \Rightarrow o$ 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 $v2_clvect_1 : \iota \Rightarrow o$ be given. Let $v3_clvect_1 : \iota \Rightarrow o$ be given. Let $v4_clvect_1 : \iota \Rightarrow o$ be given. Let $v5_clvect_1 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ 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 $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v2_convex4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k7_rusub_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_rusub_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v2_clvect_1 X0) \wedge ((v3_clvect_1 \\
 & X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 X0)))))) \Rightarrow \\
 & (\forall X1. (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \\
 & (\forall X2. (v1_xcmplx_0 X2) \Rightarrow (\forall X3. (v1_xcmplx_0 X3) \Rightarrow (\\
 & r1_tarski (k19_convex4 X0 X1 (k2_xcmplx_0 X2 X3)) (k6_rusub_4 X0 \\
 & (k19_convex4 X0 X1 X2) (k19_convex4 X0 X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. (((\neg v2_struct_0 X0) \wedge ((v2_rlvect_1 \\
 & X0) \wedge (l2_algstr_0 X0))) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
 & X0))) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0)))))) \Rightarrow (k7_rusub_4 \\
 & X0 X1 X2 = k6_rusub_4 X0 X1 X2)
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow (\forall X3.(v1_xcmplx_0 \\
& X3) \Rightarrow ((v2_convex4 X1 X0) \Rightarrow ((\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow (\neg(X2 = X4) \wedge ((X3 = X5) \wedge \\
& ((r1_xxreal_0 k1_xboole_0 X4) \wedge (r1_xxreal_0 k1_xboole_0 X5)))))) \vee \\
& (r1_tarski (k7_rusub_4 X0 (k19_convex4 X0 X1 X2) (k19_convex4 X0 \\
& X1 X3)) (k19_convex4 X0 X1 (k2_xcmplx_0 X2 X3)))))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \tag{4}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_clvect_1 \\
& X0)) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge (v1_xcmplx_0 \\
& X2))) \Rightarrow (m1_subset_1 (k19_convex4 X0 X1 X2) (k1_zfmisc_1 (u1_struct_0 \\
& X0)))
\end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(X0 = X1) \Leftrightarrow ((r1_tarski X0 X1) \wedge (r1_tarski X1 X0)) \tag{6}$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xcmplx_0 X0) \tag{7}$$

Theorem 1

$$\begin{aligned}
& \forall X0.((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\
& X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\
& ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\
& X0)))))))))) \Rightarrow (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 \\
& X0))) \Rightarrow (\forall X2.(v1_xcmplx_0 X2) \Rightarrow (\forall X3.(v1_xcmplx_0 \\
& X3) \Rightarrow ((v2_convex4 X1 X0) \Rightarrow ((\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow \\
& (\forall X5.(m1_subset_1 X5 k1_numbers) \Rightarrow (\neg(X2 = X4) \wedge ((X3 = X5) \wedge \\
& ((r1_xxreal_0 k1_xboole_0 X4) \wedge (r1_xxreal_0 k1_xboole_0 X5)))))) \vee \\
& (k7_rusub_4 X0 (k19_convex4 X0 X1 X2) (k19_convex4 X0 X1 X3) = k19_convex4 \\
& X0 X1 (k2_xcmplx_0 X2 X3)))))))))
\end{aligned}$$