

t36_convex4 (TMUYEd-
JAveTEGZ5WrV8oQ3KkSQxkqvRjqNu)

October 27, 2020

Let $v2_struct_0 : \iota \Rightarrow o$ 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 $m1_convex4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k7_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $np_1 : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k10_complex1 : \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $k8_convex4 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (v1_xcmplx_0 X2) \Rightarrow (\forall X3.(m1_convex4 X3 X0) \Rightarrow ((m2_convex4 \\ & X3 X0 X1) \Rightarrow (m2_convex4 (k7_convex4 X0 X2 X3) X0 X1)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2. \\ & (m1_convex4 X2 X0) \Rightarrow (\forall X3.(m1_convex4 X3 X0) \Rightarrow (((m2_convex4 \\ & X2 X0 X1) \wedge (m2_convex4 X3 X0 X1)) \Rightarrow (m2_convex4 (k5_convex4 X0 X2 X3) \\ & X0 X1)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\neg v1_xboole_0 np_1 \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (k10_complex1 X0 = k4_xcmplx_0 X0) \quad (4)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0) \wedge (v1_xcmplx_0 X0)) \Rightarrow ((\neg v1_xboole_0 (k4_xcmplx_0 X0)) \wedge (v1_xcmplx_0 (k4_xcmplx_0 X0))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0)\wedge(l1_clvect_1 X0))\wedge((v1_xcmplx_0 X1)\wedge(m1_convex4 X2 X0)))\Rightarrow(m1_convex4 (k7_convex4 X0 X1 X2) X0) \quad (6)$$

Assume the following.

$$m1_subset_1 k6_complex1 k2_numbers \quad (7)$$

Assume the following.

$$k6_complex1 = np_1 \quad (8)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_clvect_1 X0))\Rightarrow(\forall X1.(m1_convex4 X1 X0)\Rightarrow(\forall X2.(m1_convex4 X2 X0)\Rightarrow(k9_convex4 X0 X1 X2 = k5_convex4 X0 X1 (k8_convex4 X0 X2)))) \quad (9)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_clvect_1 X0))\Rightarrow(\forall X1.(m1_convex4 X1 X0)\Rightarrow(k8_convex4 X0 X1 = k7_convex4 X0 (k10_complex1 k6_complex1) X1)) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (11)$$

Theorem 1

$$\forall X0.((\neg v2_struct_0 X0)\wedge(l1_clvect_1 X0))\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0)))\Rightarrow(\forall X2.(m1_convex4 X2 X0)\Rightarrow(\forall X3.(m1_convex4 X3 X0)\Rightarrow(((m2_convex4 X2 X0 X1)\wedge(m2_convex4 X3 X0 X1))\Rightarrow(m2_convex4 (k9_convex4 X0 X2 X3) X0 X1))))))$$