

t40_convex4 (TMci-
iLKmG8nsXXqqLF9pDJZ2HhHAWQ6yRDN)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_clvect_1 : \iota \Rightarrow o$ be given. Let $m1_convex4 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_convex4 : \iota \Rightarrow \iota$ be given. Let $k1_rlvect_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_convex4 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k1_clvect_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_complex1 : \iota \Rightarrow \iota$ be given. Let $k6_complex1 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k7_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xcmplx_0 : \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k2_numbers : \iota$ be given. Let $l2_struct_0 : \iota \Rightarrow o$ be given. Let $l1_struct_0 : \iota \Rightarrow o$ be given. Let $l2_algstr_0 : \iota \Rightarrow o$ be given. Let $l1_algstr_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge ((v13_algstr_0 X0) \wedge ((v2_rlvect_1 \\ & X0) \wedge ((v3_rlvect_1 X0) \wedge ((v4_rlvect_1 X0) \wedge ((v2_clvect_1 X0) \wedge \\ & ((v3_clvect_1 X0) \wedge ((v4_clvect_1 X0) \wedge ((v5_clvect_1 X0) \wedge (l1_clvect_1 \\ & X0)))))))))) \Rightarrow (\forall X1. (m1_subset_1 X1 (u1_struct_0 X0)) \Rightarrow \\ & (k4_algstr_0 X0 X1 = k1_clvect_1 X0 X1 (k10_complex1 k6_complex1))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow (\forall X1. \\ & (v1_xcmplx_0 X1) \Rightarrow (\forall X2. (m1_convex4 X2 X0) \Rightarrow (k1_clvect_1 \\ & (k15_convex4 X0) (k1_rlvect_2 (k15_convex4 X0) X2) X1 = k7_convex4 \\ & X0 X1 X2))) \end{aligned} \quad (2)$$

Assume the following.

$$k3_xcmplx_0 k1_xcmplx_0 k1_xcmplx_0 = k4_xcmplx_0 np_1 \quad (3)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (v1_xcmplx_0 (k3_xcmplx_0 X0 X1)) \quad (5)$$

Assume the following.

$$v1_xcmplx_0 k1_xcmplx_0 \quad (6)$$

Assume the following.

$$\forall X0.(l2_struct_0 X0) \Rightarrow (l1_struct_0 X0) \quad (7)$$

Assume the following.

$$\forall X0.(l2_algstr_0 X0) \Rightarrow ((l2_struct_0 X0) \wedge (l1_algstr_0 X0)) \quad (8)$$

Assume the following.

$$\forall X0.(l1_clvect_1 X0) \Rightarrow (l2_algstr_0 X0) \quad (9)$$

Assume the following.

$$m1_subset_1 k6_complex1 k2_numbers \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(l1_struct_0 X0) \Rightarrow (m1_subset_1 (k1_rlvect_2 X0 X1) (u1_struct_0 X0)) \quad (11)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow ((\neg v2_struct_0 (k15_convex4 X0)) \wedge ((v13_algstr_0 (k15_convex4 X0)) \wedge ((v2_rlvect_1 (k15_convex4 X0)) \wedge ((v3_rlvect_1 (k15_convex4 X0)) \wedge ((v4_rlvect_1 (k15_convex4 X0)) \wedge ((v2_clvect_1 (k15_convex4 X0)) \wedge ((v3_clvect_1 (k15_convex4 X0)) \wedge ((v4_clvect_1 (k15_convex4 X0)) \wedge ((v5_clvect_1 (k15_convex4 X0)) \wedge (l1_clvect_1 (k15_convex4 X0)))))))))))))) \quad (12)$$

Assume the following.

$$k6_complex1 = np_1 \quad (13)$$

Assume the following.

$$\forall X0.((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow (\forall X1.(m1_convex4 X1 X0) \Rightarrow (k8_convex4 X0 X1 = k7_convex4 X0 (k10_complex1 k6_complex1) X1)) \quad (14)$$

Theorem 1

$$\begin{aligned} & \forall X0. ((\neg v2_struct_0 X0) \wedge (l1_clvect_1 X0)) \Rightarrow (\forall X1. \\ & (m1_convex4 X1 X0) \Rightarrow (k4_algstr_0 (k15_convex4 X0) (k1_rlvect_2 \\ & (k15_convex4 X0) X1) = k8_convex4 X0 X1)) \end{aligned}$$