

t11_convex1

(TMM4CcvyBLa2WWicXJXVxBNnn8pr85C2smA)

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Let $v2_struct_0 : \iota \Rightarrow o$ be given. Let $v2_rlvect_1 : \iota \Rightarrow o$ be given. Let $v3_rlvect_1 : \iota \Rightarrow o$ be given. Let $v5_rlvect_1 : \iota \Rightarrow o$ be given. Let $v6_rlvect_1 : \iota \Rightarrow o$ be given. Let $v7_rlvect_1 : \iota \Rightarrow o$ be given. Let $v8_rlvect_1 : \iota \Rightarrow o$ be given. Let $l1_rlvect_1 : \iota \Rightarrow o$ 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 $k1_numbers : \iota$ be given. Let $v1_convex1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k7_rusub_4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_convex1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge \\ & ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (((v1_convex1 X1 X0) \wedge (v1_convex1 \\ & X2 X0)) \Rightarrow (v1_convex1 (k7_rusub_4 X0 X1 X2) X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 \\ & X0) \wedge ((v7_rlvect_1 X0) \wedge ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow \quad (2) \\ & (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow ((v1_convex1 X1 X0) \Rightarrow \\ & (v1_convex1 (k1_convex1 X0 X1 X2) X0)))) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(((\neg v2_struct_0 X0) \wedge (l1_rlvect_1 \\ & X0)) \wedge ((m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 X0))) \wedge (m1_subset_1 \\ & X2 k1_numbers))) \Rightarrow (m1_subset_1 (k1_convex1 X0 X1 X2) (k1_zfmisc_1 \\ & (u1_struct_0 X0))) \end{aligned} \quad (3)$$

Theorem 1

$$\begin{aligned} & \forall X0.((\neg v2_struct_0 X0) \wedge ((v2_rlvect_1 X0) \wedge ((v3_rlvect_1 \\ & X0) \wedge ((v5_rlvect_1 X0) \wedge ((v6_rlvect_1 X0) \wedge ((v7_rlvect_1 X0) \wedge \\ & ((v8_rlvect_1 X0) \wedge (l1_rlvect_1 X0))))))) \Rightarrow (\forall X1.(m1_subset_1 \\ & X1 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X2.(m1_subset_1 \\ & X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 \\ & X3 k1_numbers) \Rightarrow (\forall X4.(m1_subset_1 X4 k1_numbers) \Rightarrow (((v1_convex1 \\ & X1 X0) \wedge (v1_convex1 X2 X0)) \Rightarrow (v1_convex1 (k7_rusub_4 X0 (k1_convex1 \\ & X0 X1 X3) (k1_convex1 X0 X2 X4)) X0)))))) \end{aligned}$$