

# t28\_convex1

## (TMTcpRdR4TXvBZeScKNnycRyVNZ4dknafPj)

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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  $v5\_rlvect\_1 : \iota \Rightarrow o$  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  $u1\_struct\_0 : \iota \Rightarrow \iota$  be given. Let  $m1\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v2\_convex1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k3\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_domain\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k6\_rlvect\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_rlvect\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
& \forall X0. ((\neg v2\_struct\_0 X0) \wedge ((v13\_algstr\_0 X0) \wedge ((v2\_rlvect\_1 \\
& X0) \wedge ((v3\_rlvect\_1 X0) \wedge ((v4\_rlvect\_1 X0) \wedge ((v5\_rlvect\_1 X0) \wedge \\
& ((v6\_rlvect\_1 X0) \wedge ((v7\_rlvect\_1 X0) \wedge ((v8\_rlvect\_1 X0) \wedge (l1\_rlvect\_1 \\
& X0)))))))))) \Rightarrow (\forall X1. (m1\_subset\_1 X1 (u1\_struct\_0 X0)) \Rightarrow \\
& (\forall X2. (m1\_subset\_1 X2 (u1\_struct\_0 X0)) \Rightarrow (\forall X3. (m1\_rlvect\_2 \\
& X3 X0) \Rightarrow (((v2\_convex1 X3 X0) \wedge (k3\_rlvect\_2 X0 X3 = k7\_domain\_1 (u1\_struct\_0 \\
& X0) X1 X2)) \Rightarrow ((X1 = X2) \vee ((k2\_xcmplx\_0 (k1\_funct\_1 X3 X1) (k1\_funct\_1 \\
& X3 X2) = np\_1) \wedge ((r1\_xxreal\_0 k6\_numbers (k1\_funct\_1 X3 X1)) \wedge \\
& (r1\_xxreal\_0 k6\_numbers (k1\_funct\_1 X3 X2)) \wedge (k6\_rlvect\_2 X0 X3 = \\
& k3\_rlvect\_1 X0 (k1\_rlvect\_1 X0 X1 (k1\_funct\_1 X3 X1)) (k1\_rlvect\_1 \\
& X0 X2 (k1\_funct\_1 X3 X2))))))))))
\end{aligned} \tag{1}$$

**Theorem 1**

$$\begin{aligned}
& \forall X0.((\neg v2\_struct\_0\ X0) \wedge (v13\_algstr\_0\ X0) \wedge (v2\_rlvect\_1 \\
& X0) \wedge (v3\_rlvect\_1\ X0) \wedge (v4\_rlvect\_1\ X0) \wedge (v5\_rlvect\_1\ X0) \wedge \\
& ((v6\_rlvect\_1\ X0) \wedge (v7\_rlvect\_1\ X0) \wedge (v8\_rlvect\_1\ X0) \wedge (l1\_rlvect\_1 \\
& X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ (u1\_struct\_0\ X0)) \Rightarrow \\
& (\forall X2.(m1\_subset\_1\ X2\ (u1\_struct\_0\ X0)) \Rightarrow (\forall X3.(m1\_rlvect\_2 \\
& X3\ X0) \Rightarrow (((v2\_convex1\ X3\ X0) \wedge (k3\_rlvect\_2\ X0\ X3 = k7\_domain\_1\ (u1\_struct\_0 \\
& X0)\ X1\ X2)) \Rightarrow ((X1 = X2) \vee ((k2\_xcmplx\_0\ (k1\_funct\_1\ X3\ X1)\ (k1\_funct\_1 \\
& X3\ X2) = np\_1) \wedge (r1\_xxreal\_0\ k6\_numbers\ (k1\_funct\_1\ X3\ X1)) \wedge ( \\
& r1\_xxreal\_0\ k6\_numbers\ (k1\_funct\_1\ X3\ X2)))))))))
\end{aligned}$$