

## t50\_convex4

(TMJX4qcqdYMVSCmavbdYSE9xKDFz3xTjn2a)

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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  $v2\_clvect\_1 : \iota \Rightarrow o$  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  $v2\_convex4 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  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  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_complex1 : \iota$  be given. Let  $k2\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_rlvect\_1 X0) \wedge ((v3\_rlvect\_1 \\ & X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 X0) \wedge ((v4\_clvect\_1 X0) \wedge \\ & ((v5\_clvect\_1 X0) \wedge (l1\_clvect\_1 X0))))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (\forall X2.(m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow (((v2\_convex4 X1 X0) \wedge (v2\_convex4 \\ & X2 X0)) \Rightarrow (v2\_convex4 (k7\_rusub\_4 X0 X1 X2) X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((\neg v2\_struct\_0 X0) \wedge ((v2\_clvect\_1 X0) \wedge ((v3\_clvect\_1 \\ & X0) \wedge ((v4\_clvect\_1 X0) \wedge ((v5\_clvect\_1 X0) \wedge (l1\_clvect\_1 X0)))))) \Rightarrow \\ & (\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0))) \Rightarrow \\ & (\forall X2.(v1\_xcmplx\_0 X2) \Rightarrow ((v2\_convex4 X1 X0) \Rightarrow (v2\_convex4 \\ & (k19\_convex4 X0 X1 X2) X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (v1\_xcmplx\_0 (k6\_xcmplx\_0 X0 X1)) \quad (3)$$

Assume the following.

$$m1\_subset\_1 k6\_complex1 k2\_numbers \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l1\_clvect\_1 X0))\wedge((m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\wedge(v1\_xcmplx\_0 X2)))\Rightarrow(m1\_subset\_1 (k19\_convex4 X0 X1 X2) (k1\_zfmisc\_1 (u1\_struct\_0 X0)))) \quad (5)$$

Assume the following.

$$k6\_complex1 = np\_1 \quad (6)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers)\Rightarrow(v1\_xcmplx\_0 X0) \quad (7)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge((v2\_rlvect\_1 X0)\wedge((v3\_rlvect\_1 X0)\wedge((v2\_clvect\_1 X0)\wedge((v3\_clvect\_1 X0)\wedge((v4\_clvect\_1 X0)\wedge((v5\_clvect\_1 X0)\wedge(l1\_clvect\_1 X0))))))))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(((v2\_convex4 X1 X0)\wedge(v2\_convex4 X2 X0))\Rightarrow(\forall X3.(v1\_xcmplx\_0 X3)\Rightarrow(v2\_convex4 (k7\_rusub\_4 X0 (k19\_convex4 X0 X1 X3) (k19\_convex4 X0 X2 (k6\_xcmplx\_0 k6\_complex1 X3)) X0))))))$$