

t20\_convex4 (TMNvQsN-  
JAUFD6LNpqRFwq7uQTL e1NTQ9ZZb)

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  $k5\_convex4 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_convex4 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $l2\_algstr\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X2 X1)) \Rightarrow (r1\_tarski (k2\_xboole\_0 X0 X2) X1) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (3)$$

Assume the following.

$$\forall X0. ((\neg v2\_struct\_0 X0) \wedge (l1\_clvect\_1 X0)) \Rightarrow (\forall X1. (m1\_convex4 X1 X0) \Rightarrow (\forall X2. (m1\_convex4 X2 X0) \Rightarrow (r1\_tarski (k1\_convex4 X0 (k5\_convex4 X0 X1 X2)) (k4\_subset\_1 (u1\_struct\_0 X0) (k1\_convex4 X0 X1) (k1\_convex4 X0 X2)))))) \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 X0))) \Rightarrow (k4\_subset\_1 X0 X1 X2 = k2\_xboole\_0 X1 X2) \quad (5)$$

Assume the following.

$$\forall X0.(l1\_clvect\_1 X0)\Rightarrow(l2\_algstr\_0 X0) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(((\neg v2\_struct\_0 X0)\wedge(l2\_algstr\_0 X0))\wedge((m1\_convex4 X1 X0)\wedge(m1\_convex4 X2 X0)))\Rightarrow(m1\_convex4 (k5\_convex4 X0 X1 X2) X0) \quad (7)$$

Assume the following.

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l2\_algstr\_0 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_convex4 X2 X0)\Rightarrow((m2\_convex4 X2 X0 X1)\Leftrightarrow(r1\_tarski (k1\_convex4 X0 X2) X1)))) \quad (8)$$

**Theorem 1**

$$\forall X0.((\neg v2\_struct\_0 X0)\wedge(l1\_clvect\_1 X0))\Rightarrow(\forall X1.(m1\_subset\_1 X1 (k1\_zfmisc\_1 (u1\_struct\_0 X0)))\Rightarrow(\forall X2.(m1\_convex4 X2 X0)\Rightarrow(\forall X3.(m1\_convex4 X3 X0)\Rightarrow(((m2\_convex4 X2 X0 X1)\wedge(m2\_convex4 X3 X0 X1))\Rightarrow(m2\_convex4 (k5\_convex4 X0 X2 X3) X0 X1))))))$$