

## t74\_chord

(TMYfqiwBPSGQXCXfJ3x3MPtopxnp2kjVc7G)

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Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k5\_numbers : \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v1\_finset\_1 : \iota \Rightarrow o$  be given. Let  $v1\_glib\_000 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $m3\_glib\_001 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $r1\_chord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $m2\_chord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k13\_glib\_001 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k6\_glib\_000 \\ & X0)) \Rightarrow (\neg(X1 \neq X2) \wedge ((\neg r1\_chord X0 X1 X2) \wedge (\neg \forall X3.(m1\_subset\_1 \\ & X3 (k1\_zfmisc\_1 (k6\_glib\_000 X0))) \Rightarrow ((m2\_chord X3 X0 X1 X2) \Leftrightarrow ((\neg \\ & X1 \in X3) \wedge ((\neg X2 \in X3) \wedge (\forall X4.(m3\_glib\_001 X4 X0) \Rightarrow (\neg(r1\_glib\_001 \\ & X0 X1 X2 X4) \wedge (\forall X5.(m1\_subset\_1 X5 (k6\_glib\_000 X0)) \Rightarrow (\neg( \\ & X5 \in X3) \wedge (X5 \in k13\_glib\_001 X0 X4)))))))))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \neg(X0 \in X1) \wedge ((m1\_subset\_1 X1 (k1\_zfmisc\_1 X2)) \wedge (v1\_xboole\_0 X2)) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (k4\_xboole\_0 X0 X1 = k1\_xboole\_0) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. k6\_subset\_1 X0 X1 = k4\_xboole\_0 X0 X1 \quad (4)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (5)$$

Assume the following.

$$v1\_xboole\_0 \ k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.m1\_subset\_1 (k6\_subset\_1 X0 X1) (k1\_zfmisc\_1 X0) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(r1\_tarski X0 X1) \Leftrightarrow (\forall X2.(X2 \in X0) \Rightarrow (X2 \in X1)) \quad (8)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 \ k5\_numbers) \wedge ((v1\_funct\_1 \\ & X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))) \Rightarrow (\forall X1.(m1\_subset\_1 \\ & X1 (k6\_glib\_000 X0)) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k6\_glib\_000 \\ & X0)) \Rightarrow ((\forall X3.(m3\_glib\_001 X3 X0) \Rightarrow (\neg r1\_glib\_001 X0 X1 X2 X3)) \Rightarrow \\ & ((X1 = X2) \vee ((r1\_chord X0 X1 X2) \vee (m2\_chord k1\_xboole\_0 X0 X1 X2)))))) \end{aligned}$$