

t53\_chord (TMWu-  
fLJ8WsZha2BaCLGFZhGvAECUW3Sid3B)

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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  $k2\_chord : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_glib\_000 : \iota \Rightarrow \iota$  be given. Let  $r1\_chord : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ (m1\_subset\_1 X2 (k6\_glib\_000 X0)) \Rightarrow ((X2 \in k2\_chord X0 X1) \Leftrightarrow ((\neg X2 \in \\ X1) \wedge (\exists X3. (m1\_subset\_1 X3 (k6\_glib\_000 X0)) \wedge ((X3 \in X1) \wedge \\ (r1\_chord X0 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((X0 \in X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 X2))) \Rightarrow (m1\_subset\_1 X0 X2) \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 \\ X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ \neg (X2 \in k2\_chord X0 X1) \wedge (X2 \in X1)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. (((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 \\ X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 \\ X0)))))) \wedge ((m1\_subset\_1 X1 (k6\_glib\_000 X0)) \wedge (m1\_subset\_1 X2 ( \\ k6\_glib\_000 X0))) \Rightarrow ((r1\_chord X0 X1 X2) \Rightarrow (r1\_chord X0 X2 X1)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge \\ ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0)))))) \Rightarrow (m1\_subset\_1 \\ (k2\_chord X0 X1) (k1\_zfmisc\_1 (k6\_glib\_000 X0))) \end{aligned} \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(X1 = k1\_tarSKI X0) \Leftrightarrow (\forall X2.(X2 \in X1) \Leftrightarrow (X2 = X0)) \quad (6)$$

**Theorem 1**

$$\forall X0.((v1\_relat\_1 X0) \wedge ((v4\_relat\_1 X0 k5\_numbers) \wedge ((v1\_funct\_1 X0) \wedge ((v1\_finset\_1 X0) \wedge (v1\_glib\_000 X0))))) \Rightarrow (\forall X1.\forall X2. (X1 \in k2\_chord X0 (k1\_tarSKI X2)) \Leftrightarrow (X2 \in k2\_chord X0 (k1\_tarSKI X1)))$$