

t89_chord (TMa-
jpkF93SwViEwN3Aq4V7Co4J2E1uUA7BN)

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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 $m3_glib_001 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_chord : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v5_chord : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $v1_abian : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k1_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $r1_glib_000 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k14_glib_001 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ & X1 X0) \Rightarrow ((v1_chord X1 X0) \Rightarrow (\forall X2.((v7_ordinal1 X2) \wedge (\neg v1_abian \\ & X2)) \Rightarrow (\forall X3.((v7_ordinal1 X3) \wedge (\neg v1_abian X3)) \Rightarrow ((r1_xxreal_0 \\ & X3 (k3_finseq_1 X1)) \Rightarrow ((r1_xxreal_0 X3 (k1_nat_1 X2 np_2)) \vee (\forall X4. \\ & \neg r1_glib_000 X0 (k1_funct_1 X1 X2) (k1_funct_1 X1 X3) X4))))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ & X1 X0) \Rightarrow ((v5_chord X1 X0) \Leftrightarrow (\exists X2.((v7_ordinal1 X2) \wedge (\neg v1_abian \\ & X2)) \wedge (\exists X3.((v7_ordinal1 X3) \wedge (\neg v1_abian X3)) \wedge ((\neg r1_xxreal_0 \\ & X3 (k1_nat_1 X2 np_2)) \wedge ((r1_xxreal_0 X3 (k3_finseq_1 X1)) \wedge ((\\ & k1_funct_1 X1 X2 \neq k1_funct_1 X1 X3) \wedge ((\exists X4.r1_glib_000 X0 \\ & (k1_funct_1 X1 X2) (k1_funct_1 X1 X3) X4) \wedge (\forall X4. \neg (X4 \in k14_glib_001 \\ & X0 X1) \wedge (r1_glib_000 X0 (k1_funct_1 X1 X2) (k1_funct_1 X1 X3) X4)))))))))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.(m3_glib_001 \\ & X1 X0) \Rightarrow (\neg (v1_chord X1 X0) \wedge (v5_chord X1 X0))) \end{aligned}$$