

t51_chord

(TMTKZdWm6AUQaiEgSZNaCiWdQpxpV7gSrqG)

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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 $r5_glib_000 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_chord : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k7_glib_000 : \iota \Rightarrow \iota$ be given. Let $r1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k10_glib_000 : \iota \Rightarrow \iota$ be given. Let $k11_glib_000 : \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1. \forall X2. \\ & (m1_subset_1 X2 (k6_glib_000 X0)) \Rightarrow ((X2 \in k2_chord X0 X1) \Leftrightarrow ((\neg X2 \in \\ & \quad X1) \wedge (\exists X3. (m1_subset_1 X3 (k6_glib_000 X0)) \wedge ((X3 \in X1) \wedge \\ & \quad (r1_chord X0 X2 X3)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ & \quad X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\ & \quad X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ & \quad X1) \wedge (v1_glib_000 X1)))))) \Rightarrow ((r5_glib_000 X0 X1) \Rightarrow (\forall X2. (\\ & \quad m1_subset_1 X2 (k6_glib_000 X0)) \Rightarrow (\forall X3. (m1_subset_1 X3 \\ & \quad (k6_glib_000 X0)) \Rightarrow ((r1_chord X0 X2 X3) \Rightarrow (\forall X4. (m1_subset_1 \\ & \quad X4 (k6_glib_000 X1)) \Rightarrow (\forall X5. (m1_subset_1 X5 (k6_glib_000 \\ & \quad X1)) \Rightarrow (((X2 = X4) \wedge (X3 = X5)) \Rightarrow (r1_chord X1 X4 X5)))))))))) \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0. \forall X1. (\forall X2. (X2 \in X0) \Leftrightarrow (X2 \in X1)) \Rightarrow (X0 = X1) \tag{3}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. (((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge \\ & \quad ((v1_funct_1 X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \wedge ((\\ & \quad v1_relat_1 X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 X1) \wedge \\ & \quad ((v1_finset_1 X1) \wedge (v1_glib_000 X1)))))) \Rightarrow ((r5_glib_000 X0 X1) \Rightarrow \\ & \quad (r5_glib_000 X1 X0)) \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.k2_chord \\ X0 X1 = ReplSep (toset (\lambda X2 : \iota.m1_subset_1 X2 (k6_glib_000 \\ X0))) (\lambda X2 : \iota.(\neg X2 \in X1) \wedge (\exists X3.(m1_subset_1 X3 (k6_glib_000 \\ X0)) \wedge ((X3 \in X1) \wedge (r1_chord X0 X2 X3)))))) (\lambda X2 : \iota.X2)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\ X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ X1) \wedge (v1_glib_000 X1)))))) \Rightarrow ((r5_glib_000 X0 X1) \Leftrightarrow ((k6_glib_000 \\ X0 = k6_glib_000 X1) \wedge ((k7_glib_000 X0 = k7_glib_000 X1) \wedge ((r1_funct_2 \\ (k7_glib_000 X0) (k6_glib_000 X0) (k7_glib_000 X1) (k6_glib_000 \\ X1) (k10_glib_000 X0) (k10_glib_000 X1)) \wedge (r1_funct_2 (k7_glib_000 \\ X0) (k6_glib_000 X0) (k7_glib_000 X1) (k6_glib_000 X1) (k11_glib_000 \\ X0) (k11_glib_000 X1)))))) \end{aligned} \quad (6)$$

Theorem 1

$$\begin{aligned} \forall X0.((v1_relat_1 X0) \wedge ((v4_relat_1 X0 k5_numbers) \wedge ((v1_funct_1 \\ X0) \wedge ((v1_finset_1 X0) \wedge (v1_glib_000 X0)))))) \Rightarrow (\forall X1.((v1_relat_1 \\ X1) \wedge ((v4_relat_1 X1 k5_numbers) \wedge ((v1_funct_1 X1) \wedge ((v1_finset_1 \\ X1) \wedge (v1_glib_000 X1)))))) \Rightarrow ((r5_glib_000 X0 X1) \Rightarrow (\forall X2.k2_chord \\ X0 X2 = k2_chord X1 X2)) \end{aligned}$$