

t15\_sin\_cos7  
(TMLUWCL4favpSbsnCoV5NSebP1gesyeFvk2)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k12\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k3\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $v2\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k5\_numbers : \iota$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_xxreal\_0 X0) \Rightarrow (\forall X1.(v1\_xxreal\_0 X1) \Rightarrow (\forall X2. \\ (v1\_xxreal\_0 X2) \Rightarrow ((r1\_xxreal\_0 X0 X1) \wedge (r1\_xxreal\_0 X1 X2)) \Rightarrow \\ (r1\_xxreal\_0 X0 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\neg(\neg r1\_xxreal\_0 X0 k6\_numbers) \wedge ( \\ (\neg r1\_xxreal\_0 np\_1 X0) \wedge (r1\_xxreal\_0 X0 (k3\_square\_1 X0)))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} ((v2\_xxreal\_0 np\_1) \wedge (m2\_subset\_1 np\_1 k1\_numbers k5\_numbers)) \wedge \\ ((m1\_subset\_1 np\_1 k5\_numbers) \wedge (m1\_subset\_1 np\_1 k1\_numbers)) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1\_xreal\_0 X0) \Rightarrow (\neg(\neg r1\_xxreal\_0 np\_1 (k3\_square\_1 \\ X0)) \wedge (r1\_xxreal\_0 (k12\_binop\_2 (k9\_binop\_2 X0 np\_1) (k10\_binop\_2 \\ np\_1 X0)) k6\_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow (v1\_xreal\_0 (k3\_square\_1 X0)) \quad (5)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((v1\_xxreal\_0 X0) \wedge (v1\_xxreal\_0 X1)) \Rightarrow ( \\ (r1\_xxreal\_0 X0 X1) \vee (r1\_xxreal\_0 X1 X0)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(k9\_binop\_2 X0 X1 = k9\_binop\_2 X1 X0) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xxreal\_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (9)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(\neg(\neg r1\_xxreal\_0 X0 k6\_numbers)\wedge(\neg r1\_xxreal\_0 np\_1 X0)\wedge(r1\_xxreal\_0 (k12\_binop\_2 (k9\_binop\_2 np\_1 X0) (k10\_binop\_2 np\_1 X0)) k6\_numbers)))$$