t13_sin_cos7 (TMbBAhp-KoxvZAW4DpicwrDBGzMRxS9UCvdA)

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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 $np\_\_1 : \iota$ be given. Let $k3\_square\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ 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 $v3\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $np\_\_0 : \iota$ be given. Let $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ be given. Let $v1\_xxreal\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\neg(\neg r1\_xxreal\_0\ X0\ X1) \wedge ((\neg v3\_xxreal\_0\ X1) \wedge (\neg v2\_xxreal\_0\ X0)))) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (X0 = k1\_xboole\_0) \tag{2}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (r1\_xxreal\_0\ k6\_numbers\ (k3\_xcmplx\_0\ X0\ X0)) \tag{3}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\neg(r1\_xxreal\_0\ k6\_numbers\ X0) \wedge ((\neg r1\_xxreal\_0\ X1\ X0) \wedge (r1\_xxreal\_0\ (k3\_square\_1\ X1)\ (k3\_square\_1\ X0))))) \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{5}$$

Assume the following.

$$(m2\_subset\_1\ np\_\_0\ k1\_numbers\ k5\_numbers) \wedge ((m1\_subset\_1\ np\_\_0\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_0\ k1\_numbers)) \tag{6}$$

Assume the following.

$$v1\_xboole\_0\ np\_\_0 \tag{7}$$

Assume the following.

$$k3\_xcmplx\_0\ np\_\_1\ np\_\_1 = np\_\_1 \tag{8}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(k12\_binop\_2\ X0\ X1 = k7\_xcmplx\_0\ X0\ X1) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(k10\_binop\_2\ X0\ X1 = k6\_xcmplx\_0\ X0\ X1) \tag{11}$$

Assume the following.

$$\exists X0.(v1\_xboole\_0\ X0)\wedge((v1\_xcmplx\_0\ X0)\wedge((v1\_xxreal\_0\ X0)\wedge(v1\_xreal\_0\ X0))) \tag{12}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(\neg(\neg r1\_xxreal\_0\ np\_\_1\ (k3\_square\_1\ X0))\wedge(r1\_xxreal\_0\ (k12\_binop\_2\ (k9\_binop\_2\ X0\ np\_\_1)\ (k10\_binop\_2\ np\_\_1\ X0))\ k6\_numbers)) \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(v1\_xreal\_0\ (k7\_xcmplx\_0\ X0\ X1)) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(v1\_xreal\_0\ (k6\_xcmplx\_0\ X0\ X1)) \tag{15}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Rightarrow(v1\_xreal\_0\ (k3\_square\_1\ X0)) \tag{16}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0)\wedge(v1\_xreal\_0\ X1))\Rightarrow(m1\_subset\_1\ (k9\_binop\_2\ X0\ X1)\ k1\_numbers) \tag{17}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (k3\_square\_1\ X0 = k3\_xcmplx\_0\ X0\ X0) \tag{18}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0) \wedge (v3\_xxreal\_0\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge ((v1\_xxreal\_0\ X0) \wedge (\neg v2\_xxreal\_0\ X0))) \tag{19}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (v1\_xxreal\_0\ X0) \tag{20}$$

Assume the following.

$$\forall X0.((v1\_xxreal\_0\ X0) \wedge (v2\_xxreal\_0\ X0)) \Rightarrow ((\neg v1\_xboole\_0\ X0) \wedge ((v1\_xxreal\_0\ X0) \wedge (\neg v3\_xxreal\_0\ X0))) \tag{21}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow (v1\_xcmplx\_0\ X0) \tag{22}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xreal\_0\ X0) \tag{23}$$

Theorem 1

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow ((\neg r1\_xxreal\_0\ np\_\_1\ (k3\_square\_1\ X0)) \Rightarrow (r1\_xxreal\_0\ k6\_numbers\ (k12\_binop\_2\ (k9\_binop\_2\ (k3\_square\_1\ X0)\ np\_\_1)\ (k10\_binop\_2\ np\_\_1\ (k3\_square\_1\ X0)))))$$