

l34\_sin\_cos8 (TM-  
bYvYNTd4EeUTR5zLcWj5V8tvjBWGTjzPR)

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Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $k7\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_sin\_cos2 : \iota \Rightarrow \iota$  be given. Let  $k6\_sin\_cos2 : \iota \Rightarrow \iota$  be given. Let  $k9\_sin\_cos2 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v2\_xreal\_0 : \iota \Rightarrow o$  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. Let  $np\_0 : \iota$  be given. Let  $r1\_xreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xcmplx\_0 X2) \Rightarrow ((X0 \neq k6\_numbers) \Rightarrow (k7\_xcmplx\_0 X1 X2 = k7\_xcmplx\_0 \\ & (k3\_xcmplx\_0 X1 X0) (k3\_xcmplx\_0 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (( \\ & X0 \neq k6\_numbers) \Rightarrow (k3\_xcmplx\_0 (k7\_xcmplx\_0 X1 X0) X0 = X1))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (\forall X2. \\ & (v1\_xcmplx\_0 X2) \Rightarrow (\forall X3.(v1\_xcmplx\_0 X3) \Rightarrow (k3\_xcmplx\_0 \\ & (k7\_xcmplx\_0 X0 X1) (k7\_xcmplx\_0 X2 X3) = k7\_xcmplx\_0 (k3\_xcmplx\_0 \\ & X0 X2) (k3\_xcmplx\_0 X1 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0) \Rightarrow ((k9\_sin\_cos2 X0 = k7\_xcmplx\_0 (k3\_sin\_cos2 \\ & X0) (k6\_sin\_cos2 X0)) \wedge (k9\_sin\_cos2 k6\_numbers = k6\_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_xcmplx\_0 X0)\wedge((v1\_xcmplx\_0 X1)\wedge(v1\_xcmplx\_0 X2)))\Rightarrow(k3\_xcmplx\_0 (k3\_xcmplx\_0 X0 X1) X2 = k3\_xcmplx\_0 X0 (k3\_xcmplx\_0 X1 X2)) \quad (7)$$

Assume the following.

$$((v2\_xxreal\_0 np\_1)\wedge(m2\_subset\_1 np\_1 k1\_numbers k5\_numbers))\wedge((m1\_subset\_1 np\_1 k5\_numbers)\wedge(m1\_subset\_1 np\_1 k1\_numbers)) \quad (8)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (9)$$

Assume the following.

$$k7\_xcmplx\_0 np\_1 np\_1 = np\_1 \quad (10)$$

Assume the following.

$$\neg r1\_xxreal\_0 np\_1 np\_0 \quad (11)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (12)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow((r1\_xxreal\_0 np\_1 (k6\_sin\_cos2 X0))\wedge((k6\_sin\_cos2 k6\_numbers = np\_1)\wedge(k3\_sin\_cos2 k6\_numbers = k6\_numbers))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0 X0)\wedge(v1\_xreal\_0 X1))\Rightarrow(v1\_xreal\_0 (k3\_xcmplx\_0 X0 X1)) \quad (14)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k9\_sin\_cos2 X0) k1\_numbers \quad (15)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k6\_sin\_cos2 X0) k1\_numbers \quad (16)$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k3\_sin\_cos2 X0) k1\_numbers \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0)\wedge(v1\_xcmplx\_0 X1))\Rightarrow(k3\_xcmplx\_0 X0 X1 = k3\_xcmplx\_0 X1 X0) \quad (18)$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers)\Rightarrow(v1\_xreal\_0 X0) \quad (20)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(v1\_xreal\_0 X0)\Rightarrow(\forall X1.(v1\_xreal\_0 X1)\Rightarrow((k7\_xcmplx\_0 \\ & (k3\_xcmplx\_0 (k3\_sin\_cos2 X0) (k6\_sin\_cos2 X1)) (k3\_xcmplx\_0 \\ & (k6\_sin\_cos2 X0) (k6\_sin\_cos2 X1)) = k9\_sin\_cos2 X0)\wedge((k3\_xcmplx\_0 \\ & (k3\_sin\_cos2 X0) (k6\_sin\_cos2 X1) = k3\_xcmplx\_0 (k9\_sin\_cos2 X0) \\ & (k3\_xcmplx\_0 (k6\_sin\_cos2 X0) (k6\_sin\_cos2 X1)))\wedge((k3\_sin\_cos2 \\ & X0 = k3\_xcmplx\_0 (k9\_sin\_cos2 X0) (k6\_sin\_cos2 X0))\wedge(k3\_xcmplx\_0 \\ & (k3\_sin\_cos2 X0) (k3\_sin\_cos2 X1) = k3\_xcmplx\_0 (k3\_xcmplx\_0 ( \\ & k9\_sin\_cos2 X0) (k9\_sin\_cos2 X1)) (k3\_xcmplx\_0 (k6\_sin\_cos2 X0) \\ & (k6\_sin\_cos2 X1)))))) \end{aligned}$$