

## l7\_sin\_cos3

(TMXkUBGw3fW83jVJkz3uKdo31tieCXEwu6v)

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Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_numbers : \iota$  be given. Let  $k5\_binop\_2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k15\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k1\_binop\_2 : \iota \Rightarrow \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $k26\_sin\_cos : \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xcmplx\_0 : \iota \Rightarrow \iota$  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  $k5\_numbers : \iota$  be given. Let  $np\_0 : \iota$  be given. Assume the following.

$$\forall X0.(v1\_xboole\_0 X0) \Rightarrow (X0 = k1\_xboole\_0) \quad (1)$$

Assume the following.

$$k26\_sin\_cos k6\_numbers = np\_1 \quad (2)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (k15\_sin\_cos X0 = k26\_sin\_cos X0) \quad (3)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 np\_1 X0 = X0) \quad (4)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (k3\_xcmplx\_0 X0 k6\_numbers = k6\_numbers) \quad (5)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (k15\_sin\_cos (k2\_xcmplx\_0 X0 X1) = k9\_complex1 (k15\_sin\_cos X0) (k15\_sin\_cos X1))) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_xcmplx\_0 X0)\wedge((v1\_xcmplx\_0 X1)\wedge(v1\_xcmplx\_0 X2)))\Rightarrow(k3\_xcmplx\_0 (k2\_xcmplx\_0 X0 X1) X2 = k2\_xcmplx\_0 (k3\_xcmplx\_0 X0 X2) (k3\_xcmplx\_0 X1 X2)) \quad (7)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(k3\_xcmplx\_0 X0 (k4\_xcmplx\_0 np\_1) = k4\_xcmplx\_0 X0) \quad (8)$$

Assume the following.

$$((v2\_xreal\_0 np\_1)\wedge(m2\_subset\_1 np\_1 k1\_numbers k5\_numbers))\wedge((m1\_subset\_1 np\_1 k5\_numbers)\wedge(m1\_subset\_1 np\_1 k1\_numbers)) \quad (9)$$

Assume the following.

$$(m2\_subset\_1 np\_0 k1\_numbers k5\_numbers)\wedge((m1\_subset\_1 np\_0 k5\_numbers)\wedge(m1\_subset\_1 np\_0 k1\_numbers)) \quad (10)$$

Assume the following.

$$v1\_xboole\_0 np\_0 \quad (11)$$

Assume the following.

$$k2\_xcmplx\_0 np\_1 (k4\_xcmplx\_0 np\_1) = np\_0 \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((m1\_subset\_1 X0 k2\_numbers)\wedge(m1\_subset\_1 X1 k2\_numbers))\Rightarrow(k9\_complex1 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (13)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0)\wedge(v1\_xcmplx\_0 X1))\Rightarrow(k5\_binop\_2 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (15)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(k1\_binop\_2 X0 = k4\_xcmplx\_0 X0) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(v1\_xcmplx\_0 (k4\_xcmplx\_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (m1\_subset\_1 (k15\_sin\_cos X0) k2\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xcmplx\_0 X0) \wedge (v1\_xcmplx\_0 X1)) \Rightarrow (k3\_xcmplx\_0 X0 X1 = k3\_xcmplx\_0 X1 X0) \quad (19)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers) \Rightarrow (v1\_xcmplx\_0 X0) \quad (20)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xcmplx\_0 X0) \quad (21)$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers) \Rightarrow (k5\_binop\_2 (k15\_sin\_cos X0) (k15\_sin\_cos (k1\_binop\_2 X0)) = np\_1)$$