

l51_sin_cos7 (TMEqHm- CGTQ1qtXV993gFKY6u8EPsFVgStnS)

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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 $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_square_1 : \iota \Rightarrow \iota$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_square_1 : \iota \Rightarrow \iota$ be given. Let $k1_xboole_0 : \iota$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow (\neg(\neg r1_xxreal_0 X0 k6_numbers) \wedge ((\neg r1_xxreal_0 X1 k6_numbers) \wedge (r1_xxreal_0 (k7_xcmplx_0 X0 X1) k6_numbers)))) \quad (1)$$

Assume the following.

$$((v2_xxreal_0 np_1) \wedge (m2_subset_1 np_1 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_1 k5_numbers) \wedge (m1_subset_1 np_1 k1_numbers)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k9_binop_2 X0 X1 = k2_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k7_square_1 X0 = k6_square_1 X0) \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k12_binop_2 X0 X1 = k7_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\neg(\neg r1_xxreal_0 X0 k6_numbers) \wedge (r1_xxreal_0 X0 np_1) \wedge (r1_xxreal_0 (k9_binop_2 np_1 (k7_square_1 (k10_binop_2 np_1 (k3_square_1 X0)))) k6_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k2_xcmplx_0 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k3_square_1 X0)) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (v1_xreal_0 (k6_square_1 X0)) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (m1_subset_1 (k10_binop_2 X0 X1) k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (12)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\neg(\neg r1_xxreal_0 X0 k6_numbers) \wedge (r1_xxreal_0 X0 np_1) \wedge (r1_xxreal_0 (k12_binop_2 (k9_binop_2 np_1 (k7_square_1 (k10_binop_2 np_1 (k3_square_1 X0)))) k6_numbers))) \quad (13)$$