

t43_sin_cos9

(TMQBda4gcST6AKSDMk2VFxtX4iTeYChkqPQ)

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Let $k5_sin_cos9 : \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sin_cos9 : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $v2_xxreal_0 : \iota \Rightarrow o$ be given. Let $v3_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k7_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_sin_cos : \iota$ be given. Let $k1_sin_cos4 : \iota \Rightarrow \iota$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $np_2 : \iota$ 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. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k3_sin_cos9 : \iota \Rightarrow \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X0) \vee ((v2_xxreal_0 X1) \vee (v3_xxreal_0 X0)))))) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow ((v1_xboole_0 X1) \vee ((v3_xxreal_0 X0) \vee (v2_xxreal_0 X1)))))) \quad (3)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 k6_numbers X0 = k6_numbers) \quad (4)$$

Assume the following.

$$(k1_seq_1 k29_sin_cos k6_numbers = k6_numbers) \wedge (k1_sin_cos4 k6_numbers = k6_numbers) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\neg(\neg r1_xxreal_0 X0 (k1_real_1 (k10_real_1 k32_sin_cos np_2))) \wedge ((\neg r1_xxreal_0 (k10_real_1 k32_sin_cos np_2) X0) \wedge (\neg(k5_sin_cos9 (k1_seq_1 k29_sin_cos X0) = X0) \wedge (k5_sin_cos9 (k1_sin_cos4 X0) = X0)))) \quad (6)$$

Assume the following.

$$((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 np_2 \quad (8)$$

Assume the following.

$$(m2_subset_1 np_0 k1_numbers k5_numbers) \wedge ((m1_subset_1 np_0 k5_numbers) \wedge (m1_subset_1 np_0 k1_numbers)) \quad (9)$$

Assume the following.

$$v1_xboole_0 np_0 \quad (10)$$

Assume the following.

$$k4_xcmplx_0 np_0 = np_0 \quad (11)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k5_sin_cos9 X0 = k3_sin_cos9 X0) \quad (13)$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k10_real_1 X0 X1 = k7_xcmplx_0 X0 X1) \quad (16)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k4_xcmplx_0 (k4_xcmplx_0 X0) = X0) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1_xboole_0 X0)\wedge(v1_xcmplx_0 X0))\wedge((\neg v1_xboole_0 X1)\wedge(v1_xcmplx_0 X1)))\Rightarrow(\neg v1_xboole_0 (k7_xcmplx_0 X0 X1)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v1_xreal_0 (k7_xcmplx_0 X0 X1)) \quad (19)$$

Assume the following.

$$\forall X0.((\neg v1_xboole_0 X0)\wedge(v1_xcmplx_0 X0))\Rightarrow((\neg v1_xboole_0 (k4_xcmplx_0 X0))\wedge(v1_xcmplx_0 (k4_xcmplx_0 X0))) \quad (20)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(v1_xreal_0 (k4_xcmplx_0 X0))) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v3_xxreal_0 X0)\wedge(v1_xreal_0 X0))\wedge((\neg v3_xxreal_0 X1)\wedge(v1_xreal_0 X1)))\Rightarrow(\neg v3_xxreal_0 (k7_xcmplx_0 X0 X1)) \quad (22)$$

Assume the following.

$$(v1_xreal_0 k31_sin_cos)\wedge(v2_xxreal_0 k31_sin_cos) \quad (23)$$

Assume the following.

$$\forall X0.((\neg v3_xxreal_0 X0)\wedge(v1_xreal_0 X0))\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(\neg v2_xxreal_0 (k4_xcmplx_0 X0))) \quad (24)$$

Assume the following.

$$m1_subset_1 k32_sin_cos k1_numbers \quad (25)$$

Assume the following.

$$v1_xreal_0 k31_sin_cos \quad (26)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k10_real_1 X0 X1) k1_numbers) \quad (27)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k3_sin_cos9 X0 = k1_seq_1 k1_sin_cos9 X0) \quad (28)$$

Assume the following.

$$\forall X0.((v1_xxreal_0 X0)\wedge(v3_xxreal_0 X0))\Rightarrow((\neg v1_xboole_0 X0)\wedge((v1_xxreal_0 X0)\wedge(\neg v2_xxreal_0 X0))) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (30)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xcmplx_0 X0) \quad (31)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (32)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xcmplx_0 X0) \quad (33)$$

Theorem 1

$$(k5_sin_cos9 k6_numbers = k6_numbers)\wedge(k1_seq_1 k1_sin_cos9 k6_numbers = k6_numbers)$$