

t73_sincos10

(TMdMgVefwJigDvF8kvwChnwEvMkjNf4JHhC)

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Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sincos10 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $np_4 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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 $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_sincos10 : \iota \Rightarrow \iota$ be given. Let $k1_fdiff_9 : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k2_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ 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 $k5_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $np_0 : \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_sincos10 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xboole_0 X0) \Rightarrow (X0 = k1_xboole_0) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k7_xcmplx_0 X0 np_1 = X0) \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow ((r1_xxreal_0 k6_numbers \\ X0) \Rightarrow ((r1_xxreal_0 (k10_real_1 k32_sin_cos np_2) X0) \vee (k9_sincos10 \\ (k1_seq_1 k1_fdiff_9 X0) = X0))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal_0 X0) \Rightarrow (\forall X1.(v1_xxreal_0 X1) \Rightarrow (\forall X2. \\ (v1_xxreal_0 X2) \Rightarrow ((X0 \in k2_xxreal_1 X1 X2) \Leftrightarrow ((r1_xxreal_0 X1 X0) \wedge \\ (\neg r1_xxreal_0 X2 X0)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & (k1_seq_1 \ k1_fdiff_9 \ k6_numbers = np_1) \wedge ((k1_seq_1 \ k1_fdiff_9 \\ & \quad (k10_real_1 \ k32_sin_cos \ np_4) = k7_square_1 \ np_2) \wedge ((k1_seq_1 \\ & \quad \quad k1_fdiff_9 \ (k8_real_1 \ (k10_real_1 \ np_3 \ np_4) \ k32_sin_cos) = \\ & \quad \quad \quad k1_real_1 \ (k7_square_1 \ np_2)) \wedge (k1_seq_1 \ k1_fdiff_9 \ k32_sin_cos = \\ & \quad \quad \quad \quad k1_real_1 \ np_1))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 \ X0 \ X1) \quad (6)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_4) \wedge (m2_subset_1 \ np_4 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_4 \ k5_numbers) \wedge (m1_subset_1 \ np_4 \ k1_numbers)) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. (v1_xcmplx_0 \ X0) \Rightarrow (k7_xcmplx_0 \ np_1 \ X0 = k5_xcmplx_0 \ X0) \quad (8)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_2) \wedge (m2_subset_1 \ np_2 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_2 \ k5_numbers) \wedge (m1_subset_1 \ np_2 \ k1_numbers)) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal_0 \ np_1) \wedge (m2_subset_1 \ np_1 \ k1_numbers \ k5_numbers)) \wedge \\ & ((m1_subset_1 \ np_1 \ k5_numbers) \wedge (m1_subset_1 \ np_1 \ k1_numbers)) \end{aligned} \quad (10)$$

Assume the following.

$$(m2_subset_1 \ np_0 \ k1_numbers \ k5_numbers) \wedge ((m1_subset_1 \ np_0 \ k5_numbers) \wedge (m1_subset_1 \ np_0 \ k1_numbers)) \quad (11)$$

Assume the following.

$$v1_xboole_0 \ np_0 \quad (12)$$

Assume the following.

$$k7_xcmplx_0 \ np_1 \ (k7_xcmplx_0 \ np_1 \ np_2) = np_2 \quad (13)$$

Assume the following.

$$k2_xcmplx_0 \ (k7_xcmplx_0 \ np_1 \ np_4) \ (k7_xcmplx_0 \ np_1 \ np_4) = k7_xcmplx_0 \ np_1 \ np_2 \quad (14)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 \ X0) \wedge (v1_xxreal_0 \ X1)) \Rightarrow (r1_xxreal_0 \ X0 \ X0) \quad (15)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k9_sincos10 X0 = k5_sincos10 X0) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (17)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k3_rcomp_1 X0 X1 = k2_xxreal_1 X0 X1) \quad (19)$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k10_real_1 X0 X1 = k7_xcmplx_0 X0 X1) \quad (21)$$

Assume the following.

$$(k6_numbers \in k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2)) \wedge (k10_real_1 k32_sin_cos np_4 \in k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2)) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (k5_xcmplx_0 (k5_xcmplx_0 X0) = X0) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k7_xcmplx_0 X0 X1)) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v1_xreal_0 (k2_xcmplx_0 X0 X1)) \quad (25)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_xcmplx_0 (k5_xcmplx_0 X0)) \wedge (v1_xreal_0 (k5_xcmplx_0 X0))) \quad (26)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (27)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers)\wedge(v1_xreal_0\ X1))\Rightarrow(m1_subset_1\ (k8_real_1\ X0\ X1)\ k1_numbers) \quad (28)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(m1_subset_1\ (k7_square_1\ X0)\ k1_numbers) \quad (29)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0)\Rightarrow(v1_xcmplx_0\ (k5_xcmplx_0\ X0)) \quad (30)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0\ X0)\wedge(v1_xreal_0\ X1))\Rightarrow(m1_subset_1\ (k3_rcomp_1\ X0\ X1)\ (k1_zfmisc_1\ k1_numbers)) \quad (31)$$

Assume the following.

$$m1_subset_1\ k32_sin_cos\ k1_numbers \quad (32)$$

Assume the following.

$$v1_xreal_0\ k31_sin_cos \quad (33)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1\ X0\ k1_numbers)\wedge(v1_xreal_0\ X1))\Rightarrow(m1_subset_1\ (k10_real_1\ X0\ X1)\ k1_numbers) \quad (34)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0\ X0)\Rightarrow(\forall X1.(v1_xcmplx_0\ X1)\Rightarrow(k7_xcmplx_0\ X0\ X1 = k3_xcmplx_0\ X0\ (k5_xcmplx_0\ X1))) \quad (35)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(k5_sincos10\ X0 = k1_seq_1\ k1_sincos10\ X0) \quad (36)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xcmplx_0\ X0)\wedge(v1_xcmplx_0\ X1))\Rightarrow(k3_xcmplx_0\ X0\ X1 = k3_xcmplx_0\ X1\ X0) \quad (37)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ (k1_zfmisc_1\ k1_numbers))\Rightarrow(v3_membered\ X0) \quad (38)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (39)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xxreal_0\ X0) \quad (40)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v2_membered\ X0) \quad (41)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (42)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (43)$$

Assume the following.

$$\forall X0.(v2_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xxreal_0\ X1)) \quad (44)$$

Assume the following.

$$\forall X0.(v1_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xcmplx_0\ X1)) \quad (45)$$

Theorem 1

$$(k1_seq_1\ k1_sincos10\ np_1 = k6_numbers)\wedge(k1_seq_1\ k1_sincos10\ (k7_square_1\ np_2) = k10_real_1\ k32_sin_cos\ np_4)$$