

t111_sincos10 (TMaWAJX- cEPL5PhjYdMNjYzTnetTnA8rHTna)

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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 $k1_real.1 : \iota \Rightarrow \iota$ be given. Let $k7_square.1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $np_1 : \iota$ be given. Let $k11_sincos10 : \iota \Rightarrow \iota$ be given. Let $k10_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $np_4 : \iota$ be given. Let $k1_seq.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_fdiff_9 : \iota$ be given. Let $v1_xxreal.0 : \iota \Rightarrow o$ 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 $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $v3_valued.0 : \iota \Rightarrow o$ be given. Let $k1_funct.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_sincos10 : \iota \Rightarrow \iota$ be given. Let $v2_valued.0 : \iota \Rightarrow o$ be given. Let $k3_sincos10 : \iota$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal.0 : \iota \Rightarrow o$ be given. Let $v5_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v4_relat.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(m1_subset.1 X0 k1_numbers) \Rightarrow & (((r1_xxreal.0 (k1_real.1 \\ (k7_square.1 np_2)) X0) \wedge (r1_xxreal.0 X0 & (k1_real.1 np_1))) \Rightarrow \\ (k1_seq.1 k2_fdiff_9 (k11_sincos10 X0) &= X0)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} (k1_seq.1 k2_fdiff_9 (k1_real.1 (k10_real.1 & k32_sin_cos np_2)) = \\ k1_real.1 np_1) \wedge ((k1_seq.1 k2_fdiff_9 & (k1_real.1 (k10_real.1 \\ k32_sin_cos np_4)) = k1_real.1 (k7_square.1 & np_2)) \wedge ((k1_seq.1 \\ k2_fdiff_9 (k10_real.1 k32_sin_cos np_4) &= k7_square.1 np_2) \wedge \\ (k1_seq.1 k2_fdiff_9 (k10_real.1 k32_sin_cos & np_2) = np_1)) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0.(v1_xxreal.0 X0) \Rightarrow (\forall X1.(v1_xxreal.0 & X1) \Rightarrow ((\\ (r1_xxreal.0 X0 X1) \wedge (r1_xxreal.0 X1 X0)) & \Rightarrow (X0 = X1))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow & (((r1_xxreal_0 (k1_real_1 \\ & (k7_square_1 np_2)) X0) \wedge (r1_xxreal_0 X0 (k1_real_1 np_1))) \Rightarrow \\ & ((r1_xxreal_0 (k1_real_1 (k10_real_1 k32_sin_cos np_2)) (k11_sincos10 \\ & X0)) \wedge (r1_xxreal_0 (k11_sincos10 X0) (k1_real_1 (k10_real_1 k32_sin_cos \\ & np_4)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_4) \wedge (m2_subset_1 np_4 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_4 k5_numbers) \wedge (m1_subset_1 np_4 k1_numbers)) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} ((v2_xxreal_0 np_2) \wedge (m2_subset_1 np_2 k1_numbers k5_numbers)) \wedge \\ ((m1_subset_1 np_2 k5_numbers) \wedge (m1_subset_1 np_2 k1_numbers)) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (k11_sincos10 X0 = k7_sincos10 X0) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v2_valued_0 X0))) \Rightarrow (v1_xxreal_0 (k1_funct_1 X0 X1)) \quad (9)$$

Assume the following.

$$(v1_funct_1 k3_sincos10) \wedge (m1_subset_1 k3_sincos10 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (10)$$

Assume the following.

$$m1_subset_1 k32_sin_cos k1_numbers \quad (11)$$

Assume the following.

$$(v1_funct_1 k2_fdiff_9) \wedge (m1_subset_1 k2_fdiff_9 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k10_real_1 X0 X1) k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k7_sincos10 X0 = k1_seq_1 k3_sincos10 X0) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow((r1_xxreal_0 X0 X1)\vee(r1_xxreal_0 X1 X0)) \quad (16)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v3_valued_0 X0))\Rightarrow((v1_relat_1 X0)\wedge(v2_valued_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (18)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v5_relat_1 X0 k1_numbers))\Rightarrow((v1_relat_1 X0)\wedge(v3_valued_0 X0)) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (20)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(v1_xreal_0 X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (22)$$

Theorem 1

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\neg(\neg(r1_xxreal_0 X0 (k1_real_1 (k7_square_1 np_2))))\wedge(\neg(r1_xxreal_0 (k1_real_1 np_1) X0)\wedge(\neg(\neg(r1_xxreal_0 (k11_sincos10 X0) (k1_real_1 (k10_real_1 k32_sin_cos np_2))))\wedge(\neg(r1_xxreal_0 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) (k11_sincos10 X0))))))$$