

t97_sincos10
(TMPGubt6Cef3jfNcEqhqVypTBtBx7oZz7PX)

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Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sincos10 : \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $k7_square_1 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k6_numbers : \iota$ 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 $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_fdiff_9 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $v5_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned}
 & k2_partfun1\ k1_numbers\ k1_numbers\ k1_sincos10\ (k1_rcomp_1\ np_1 \\
 & (k7_square_1\ np_2)) = k2_partfun2\ k1_numbers\ k1_numbers\ (k2_partfun1 \\
 & k1_numbers\ k1_numbers\ k1_fdiff_9\ (k1_rcomp_1\ k6_numbers\ (k10_real_1 \\
 & k32_sin_cos\ np_4)))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_relat_1\ X0) \wedge (v1_funct_1\ X0)) \Rightarrow ((v2_funct_1\ X0) \Rightarrow \\
 & ((k10_xtuple_0\ X0 = k9_xtuple_0\ (k2_funct_1\ X0)) \wedge (k9_xtuple_0 \\
 & X0 = k10_xtuple_0\ (k2_funct_1\ X0))))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((v1_relat_1\ X1) \wedge (v5_relat_1\ X1\ X0)) \Rightarrow (\\
 & k2_relset_1\ X0\ X1 = k10_xtuple_0\ X1)
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((v1_funct_1\ X2) \wedge ((v2_funct_1 \\
 & X2) \wedge (m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))) \Rightarrow (k2_partfun2 \\
 & X0\ X1\ X2 = k2_funct_1\ X2)
 \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (6)$$

Assume the following.

$$k1_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 (k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4))) = k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4) \quad (7)$$

Assume the following.

$$v2_funct_1 (k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 (k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4))) \quad (8)$$

Assume the following.

$$(v1_relat_1 (k5_relat_1 k1_fdiff_9 (k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4))))\wedge(v2_funct_1 (k5_relat_1 k1_fdiff_9 (k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (10)$$

Assume the following.

$$(v1_funct_1 k1_sincos10)\wedge(m1_subset_1 k1_sincos10 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (11)$$

Assume the following.

$$(v1_funct_1 k1_fdiff_9)\wedge(m1_subset_1 k1_fdiff_9 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (12)$$

Assume the following.

$$k1_sincos10 = k2_partfun2 k1_numbers k1_numbers (k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 (k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (15)$$

Theorem 1

$$k2_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k1_sincos10 (k1_rcomp_1 np_1 (k7_square_1 np_2))) = k1_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_4)$$