

t98_sincos10

(TMGym6trpc1n4aYaYtNs7ArJ8CZB6QthQBV)

October 27, 2020

Let $k2_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_sincos10 : \iota$ be given. Let $k1_rcomp.1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k8_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $np_4 : \iota$ be given. Let $k32_sin_cos : \iota$ 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. Assume the following.

$$\begin{aligned}
 & k2_partfun1\ k1_numbers\ k1_numbers\ k2_sincos10\ (k1_rcomp.1\ (k1_real.1 \\
 & \quad (k7_square.1\ np_2))\ (k1_real.1\ np_1)) = k2_partfun2\ k1_numbers \\
 & k1_numbers\ (k2_partfun1\ k1_numbers\ k1_numbers\ k1_fdiff.9\ (k1_rcomp.1 \\
 & \quad (k8_real.1\ (k10_real.1\ np_3\ np_4)\ k32_sin_cos)\ k32_sin_cos))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0.((v1_relat.1\ X0) \wedge (v1_funct.1\ X0)) \Rightarrow ((v2_funct.1\ X0) \Rightarrow \\
 & ((k10_xtuple.0\ X0 = k9_xtuple.0\ (k2_funct.1\ X0)) \wedge (k9_xtuple.0 \\
 & \quad X0 = k10_xtuple.0\ (k2_funct.1\ X0)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((v1_relat.1\ X1) \wedge (v5_relat.1\ X1\ X0)) \Rightarrow (\\
 & \quad k2_relset.1\ X0\ X1 = k10_xtuple.0\ X1)
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. \forall X2. ((v1_funct.1\ X2) \wedge ((v2_funct.1 \\
 & X2) \wedge (m1_subset.1\ X2\ (k1_zfmisc.1\ (k2_zfmisc.1\ X0\ X1)))))) \Rightarrow (k2_partfun2 \\
 & \quad X0\ X1\ X2 = k2_funct.1\ X2)
 \end{aligned} \tag{4}$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(\\ & k1_relset_1 X0 X1 = k9_xtuple_0 X1) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & k1_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 \\ & (k1_rcomp_1 (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos) \\ & k32_sin_cos)) = k1_rcomp_1 (k8_real_1 (k10_real_1 np_3 np_4) \\ & k32_sin_cos) k32_sin_cos \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & v2_funct_1 (k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 (k1_rcomp_1 \\ & (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos) k32_sin_cos)) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & (v1_relat_1 (k5_relat_1 k1_fdiff_9 (k1_rcomp_1 (k8_real_1 (k10_real_1 \\ & np_3 np_4) k32_sin_cos) k32_sin_cos))\wedge(v2_funct_1 (k5_relat_1 \\ & k1_fdiff_9 (k1_rcomp_1 (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos) \\ & k32_sin_cos))) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k2_sincos10)\wedge(m1_subset_1 k2_sincos10 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k1_numbers k1_numbers))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 \\ & (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ & (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k1_fdiff_9)\wedge(m1_subset_1 k1_fdiff_9 (k1_zfmisc_1 \\ & (k2_zfmisc_1 k1_numbers k1_numbers))) \end{aligned} \quad (12)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \end{aligned} \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (14)$$

Theorem 1

$$k2_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k2_sincos10 (k1_rcomp_1 (k1_real_1 (k7_square_1 np_2)) (k1_real_1 np_1))) = k1_rcomp_1 (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos) k32_sin_cos$$