

t48_sin_cos9
(TMaPob6AnzyhsHDzn1siCBm1G2MHVb4rc8t)

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Let $v6_valued_0 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_sin_cos9 : \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k30_sin_cos : \iota$ 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 $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k7_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ 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 $k7_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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.

$$\forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow (k5_relat_1 (k5_relat_1 X1 X0) X0 = k5_relat_1 X1 X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & k2_partfun1 k1_numbers k1_numbers k2_sin_cos9 (k1_rcomp_1 (k1_real_1 \\ & \quad np_1) np_1) = k2_partfun2 k1_numbers k1_numbers (k2_partfun1 \\ & \quad k1_numbers k1_numbers k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos \\ & \quad \quad np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos))) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & k2_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k30_sin_cos \\ & \quad (k1_rcomp_1 (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 \\ & \quad \quad np_3 np_4) k32_sin_cos))) = k1_rcomp_1 (k1_real_1 np_1) np_1 \end{aligned} \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X1) \Rightarrow (k10_xtuple_0 (k5_relat_1 X1 X0) = k7_relat_1 X1 X0) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_funct_1 X1)\wedge((v2_funct_1 X1)\wedge(m1_subset_1 \\ & X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))))\Rightarrow((v6_valued_0 \\ & (k2_partfun1 k1_numbers k1_numbers X1 X0))\Rightarrow(v6_valued_0 (k2_partfun1 \\ & k1_numbers k1_numbers (k2_partfun2 k1_numbers k1_numbers (k2_partfun1 \\ & k1_numbers k1_numbers X1 X0)) (k7_relset_1 k1_numbers k1_numbers \\ & X1 X0)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k7_relset_1 X0 X1 X2 X3 = k7_relat_1 \\ & X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(k5_relset_1 X0 X1 X2 X3 = k5_relat_1 \\ & X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(\\ & k2_relset_1 X0 X1 = k10_xtuple_0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge \\ & (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 \\ & X0 X1 X2 X3 = k5_relat_1 X2 X3) \end{aligned} \quad (9)$$

Assume the following.

$$\begin{aligned} & v2_funct_1 (k2_partfun1 k1_numbers k1_numbers k30_sin_cos (k1_rcomp_1 \\ & (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 np_3 np_4) \\ & k32_sin_cos))) \end{aligned} \quad (10)$$

Assume the following.

$$\begin{aligned} & v6_valued_0 (k2_partfun1 k1_numbers k1_numbers (k2_partfun1 \\ & k1_numbers k1_numbers k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos \\ & np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos))) (k1_rcomp_1 \\ & (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 np_3 np_4) \\ & k32_sin_cos))) \end{aligned} \quad (11)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.(m1_subset_1 X2 (\\ & k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(m1_subset_1 (k5_relset_1 \\ & X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \end{aligned} \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(v1_relat_1 X0)\Rightarrow(v1_relat_1 (k5_relat_1 X0 X1)) \quad (13)$$

Assume the following.

$$(v1_funct_1 k30_sin_cos)\wedge(m1_subset_1 k30_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (14)$$

Assume the following.

$$(v1_funct_1 k2_sin_cos9)\wedge(m1_subset_1 k2_sin_cos9 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (18)$$

Theorem 1

$$v6_valued_0 (k2_partfun1 k1_numbers k1_numbers k2_sin_cos9 (k1_rcomp_1 (k1_real_1 np_1) np_1))$$