

t55_sin_cos9 (TMd- HCPYn6FRg3HYMgHZi5rwVDSLcFqubcGT)

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Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_sin_cos9 : \iota$ 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 $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $np_4 : \iota$ be given. Let $k5_sin_cos9 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k16_sin_cos : \iota$ be given. Let $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k29_sin_cos : \iota$ 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.

$$\begin{aligned} (k5_sin_cos9\ np_1 = k10_real_1\ k32_sin_cos\ np_4) \wedge (k1_seq_1 \\ k1_sin_cos9\ np_1 = k10_real_1\ k32_sin_cos\ np_4) \end{aligned} \quad (1)$$

Assume the following.

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

Assume the following.

$$k10_xtuple_0\ k16_sin_cos = k1_rcomp_1\ (k1_real_1\ np_1)\ np_1 \quad (3)$$

Assume the following.

$$\begin{aligned} k2_partfun1\ k1_numbers\ k1_numbers\ k1_sin_cos9\ (k1_rcomp_1\ (k1_real_1 \\ np_1)\ np_1) = k2_partfun2\ k1_numbers\ k1_numbers\ (k2_partfun1 \\ k1_numbers\ k1_numbers\ k29_sin_cos\ (k1_rcomp_1\ (k1_real_1\ (k10_real_1 \\ k32_sin_cos\ np_4))\ (k10_real_1\ k32_sin_cos\ np_4))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(k2_relset_1 X0 X1 = k10_xtuple_0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1_funct_1 X2)\wedge((v2_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\Rightarrow(k2_partfun2 X0 X1 X2 = k2_funct_1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v4_relat_1 X1 X0))\Rightarrow(k1_relset_1 X0 X1 = k9_xtuple_0 X1) \quad (8)$$

Assume the following.

$$k1_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) (k10_real_1 k32_sin_cos np_4))) = k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) (k10_real_1 k32_sin_cos np_4) \quad (9)$$

Assume the following.

$$(v1_relat_1 (k5_relat_1 k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) (k10_real_1 k32_sin_cos np_4))))\wedge(v2_funct_1 (k5_relat_1 k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) (k10_real_1 k32_sin_cos np_4)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (11)$$

Assume the following.

$$(v1_funct_1 k29_sin_cos)\wedge(m1_subset_1 k29_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (12)$$

Assume the following.

$$(v1_funct_1 k1_sin_cos9)\wedge(m1_subset_1 k1_sin_cos9 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (13)$$

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

$$k2_relset_1 k1_numbers (k2_partfun1 k1_numbers k1_numbers k1_sin_cos9 (k1_rcomp_1 (k1_real_1 np_1) np_1)) = k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4) (k10_real_1 k32_sin_cos np_4))$$