

t28_sin_cos9

(TMLDim4PMzkiZvN75F7cLyfqBRntBZMFnhE)

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Let $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k30_sin_cos : \iota$ 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 $k1_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_funct_1 : \iota \Rightarrow \iota$ be given. Let $k4_relat_1 : \iota \Rightarrow \iota$ be given. Let $k9_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k10_xtuple_0 : \iota \Rightarrow \iota$ be given. Let $k1_sin_cos9 : \iota$ be given. Let $k29_sin_cos : \iota$ be given. Let $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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. Assume the following.

$$\begin{aligned} & \forall X0. ((v1_relat_1 X0) \wedge (v1_funct_1 X0)) \Rightarrow ((v2_funct_1 X0) \Rightarrow \\ & ((k3_relat_1 X0 (k2_funct_1 X0) = k4_relat_1 (k9_xtuple_0 X0)) \wedge \\ & (k3_relat_1 (k2_funct_1 X0) X0 = k4_relat_1 (k10_xtuple_0 X0))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & k3_relat_1 (k2_partfun1 k1_numbers k1_numbers k1_sin_cos9 (k1_rcomp_1 \\ & (k1_real_1 np_1) np_1)) (k2_partfun1 k1_numbers k1_numbers \\ & k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4)) \\ & (k10_real_1 k32_sin_cos np_4))) = k1_partfun2 k1_numbers (k1_rcomp_1 \\ & (k1_real_1 np_1) np_1) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} & k2_partfun1 k1_numbers k1_numbers k2_sin_cos9 (k1_rcomp_1 (k1_real_1 \\ & np_1) np_1) = k2_partfun2 k1_numbers k1_numbers (k2_partfun1 \\ & k1_numbers k1_numbers k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos \\ & np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos))) \end{aligned} \quad (3)$$

Assume the following.

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

Assume the following.

$$\begin{aligned}
& k2_relset_1\ k1_numbers\ (k2_partfun1\ k1_numbers\ k1_numbers\ k30_sin_cos \\
& \quad (k1_rcomp_1\ (k10_real_1\ k32_sin_cos\ np_4)\ (k8_real_1\ (k10_real_1 \\
& \quad \quad np_3\ np_4)\ k32_sin_cos))) = k1_rcomp_1\ (k1_real_1\ np_1)\ np_1
\end{aligned} \tag{5}$$

Assume the following.

$$\begin{aligned}
& k2_relset_1\ k1_numbers\ (k2_partfun1\ k1_numbers\ k1_numbers\ k29_sin_cos \\
& \quad (k1_rcomp_1\ (k1_real_1\ (k10_real_1\ k32_sin_cos\ np_4))\ (k10_real_1 \\
& \quad \quad k32_sin_cos\ np_4))) = k1_rcomp_1\ (k1_real_1\ np_1)\ np_1
\end{aligned} \tag{6}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.((v1_relat_1\ X1)\wedge(v5_relat_1\ X1\ X0))\Rightarrow(\\
& \quad k2_relset_1\ X0\ X1 = k10_xtuple_0\ X1)
\end{aligned} \tag{7}$$

Assume the following.

$$\begin{aligned}
& \forall X0.\forall X1.\forall X2.((v1_funct_1\ X2)\wedge((v2_funct_1 \\
& \quad X2)\wedge(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))))\Rightarrow(k2_partfun2 \\
& \quad X0\ X1\ X2 = k2_funct_1\ X2)
\end{aligned} \tag{8}$$

Assume the following.

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

Assume the following.

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

Assume the following.

$$\begin{aligned}
& v2_funct_1\ (k2_partfun1\ k1_numbers\ k1_numbers\ k29_sin_cos\ (k1_rcomp_1 \\
& \quad (k1_real_1\ (k10_real_1\ k32_sin_cos\ np_4))\ (k10_real_1\ k32_sin_cos \\
& \quad \quad np_4)))
\end{aligned} \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k5_relat_1 X0 X1))\wedge(v1_funct_1 (k5_relat_1 X0 X1))) \quad (12)$$

Assume the following.

$$(v1_relat_1 (k5_relat_1 k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos))))\wedge (v2_funct_1 (k5_relat_1 k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos)))) \quad (13)$$

Assume the following.

$$(v1_relat_1 (k5_relat_1 k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4) (k10_real_1 k32_sin_cos np_4))))\wedge (v2_funct_1 (k5_relat_1 k29_sin_cos (k1_rcomp_1 (k1_real_1 (k10_real_1 k32_sin_cos np_4) (k10_real_1 k32_sin_cos np_4)))) \quad (14)$$

Assume the following.

$$(v1_funct_1 k30_sin_cos)\wedge(m1_subset_1 k30_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (15)$$

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.

$$(v1_funct_1 k29_sin_cos)\wedge(m1_subset_1 k29_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow((v4_relat_1 X2 X0)\wedge(v5_relat_1 X2 X1)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (19)$$

Theorem 1

$$k3_relat_1 (k2_partfun1 k1_numbers k1_numbers k2_sin_cos9 (k1_rcomp_1 (k1_real_1 np_1) np_1)) (k2_partfun1 k1_numbers k1_numbers k30_sin_cos (k1_rcomp_1 (k10_real_1 k32_sin_cos np_4) (k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos))) = k1_partfun2 k1_numbers (k1_rcomp_1 (k1_real_1 np_1) np_1)$$