

t61_sincos10
(TMSg1f1Tw5zknNz1fhXnabAjevWDo61evKNe)

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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 $k1_fdiff_9 : \iota$ be given. Let $k3_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $np_2 : \iota$ be given. Let $k1_sincos10 : \iota$ 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 $k2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k2_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ 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.

$$k2_reset_1 k1_numbers k1_sincos10 = k3_rcomp_1 k6_numbers (k10_real_1 \\ k32_sin_cos np_2) \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (\\ k2_reset_1 X0 X1 = k10_xtuple_0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge ((v2_funct_1 \\ X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (k2_partfun2 \\ X0 X1 X2 = k2_funct_1 X2) \quad (4)$$

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.

$$\forall X0.\forall X1.((\neg v1_xboole_0 X0)\wedge(m1_subset_1 X1 (k1_zfmisc_1 X0)))\Rightarrow(k1_partfun2 X0 X1 = k4_relat_1 X1) \quad (6)$$

Assume the following.

$$k2_funct_1 k1_sincos10 = k2_partfun1 k1_numbers k1_numbers k1_fdiff_9 (k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2)) \quad (7)$$

Assume the following.

$$(v1_funct_1 k1_sincos10)\wedge(v2_funct_1 k1_sincos10) \quad (8)$$

Assume the following.

$$(v1_relat_1 (k5_relat_1 k1_fdiff_9 (k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2))))\wedge(v2_funct_1 (k5_relat_1 k1_fdiff_9 (k3_rcomp_1 k6_numbers (k10_real_1 k32_sin_cos np_2)))) \quad (9)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X1)\wedge(v5_relat_1 X1 X0))\Rightarrow(m1_subset_1 (k2_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow((v1_funct_1 (k2_partfun1 X0 X1 X2 X3))\wedge(m1_subset_1 (k2_partfun1 X0 X1 X2 X3) (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (12)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v1_funct_1 X0))\Rightarrow((v1_relat_1 (k2_funct_1 X0))\wedge(v1_funct_1 (k2_funct_1 X0))) \quad (13)$$

Assume the following.

$$(v1_funct_1 k1_sincos10)\wedge(m1_subset_1 k1_sincos10 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (14)$$

Assume the following.

$$(v1_funct_1 \ k1_fdiff_9) \wedge (m1_subset_1 \ k1_fdiff_9 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers))) \quad (15)$$

Assume the following.

$$k1_sincos10 = k2_partfun2 \ k1_numbers \ k1_numbers \ (k2_partfun1 \ k1_numbers \ k1_numbers \ k1_fdiff_9 \ (k3_rcomp_1 \ k6_numbers \ (k10_real_1 \ k32_sin_cos \ np_2))) \quad (16)$$

Assume the following.

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

Theorem 1

$$k3_relat_1 \ (k2_partfun1 \ k1_numbers \ k1_numbers \ k1_fdiff_9 \ (k3_rcomp_1 \ k6_numbers \ (k10_real_1 \ k32_sin_cos \ np_2))) \ k1_sincos10 = k1_partfun2 \ k1_numbers \ (k3_rcomp_1 \ k6_numbers \ (k10_real_1 \ k32_sin_cos \ np_2))$$