

t67_sin_cos

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k19_sin_cos : \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ be given. Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ k1_numbers k1_numbers)))) \Rightarrow ((r2_fdiff_1 X1 X0) \Leftrightarrow ((r1_tarski X0 \\ (k1_relset_1 k1_numbers X1)) \wedge (\forall X2.(m1_subset_1 X2 k1_numbers) \Rightarrow \\ ((X2 \in X0) \Rightarrow (r1_fdiff_1 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r1_fdiff_1 k19_sin_cos X0) \wedge (k1_fdiff_1 \\ k19_sin_cos X0 = k1_real_1 (k1_seq_1 k16_sin_cos X0))) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1_subset_1 X0 (k1_zfmisc_1 X1)) \Leftrightarrow (r1_tarski \\ X0 X1) \quad (3)$$

Assume the following.

$$(k1_relset_1 k1_numbers k16_sin_cos = k1_numbers) \wedge (k1_relset_1 \\ k1_numbers k19_sin_cos = k1_numbers) \quad (4)$$

Assume the following.

$$v3_rcomp_1 (k2_subset_1 k1_numbers) \quad (5)$$

Assume the following.

$$\forall X0.m1_subset_1 (k2_subset_1 X0) (k1_zfmisc_1 X0) \quad (6)$$

Assume the following.

$$(v1_funct_1 k19_sin_cos) \wedge ((v1_funct_2 k19_sin_cos k1_numbers k1_numbers) \wedge (m1_subset_1 k19_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \quad (7)$$

Assume the following.

$$\forall X0.k2_subset_1 X0 = X0 \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (9)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k19_sin_cos k1_numbers) \wedge (k1_fdiff_1 k19_sin_cos X0 = k1_real_1 (k1_seq_1 k16_sin_cos X0)))$$