

t19_sin_cos (TMcGGAR- QESqyhT79je4hNDjM687aHEHVxF2)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2_numbers : \iota$ be given. Let $m2_subset_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k18_complex1 : \iota \Rightarrow \iota$ be given. Let $k8_nat_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_series_1 : \iota \Rightarrow \iota$ be given. Let $k4_sin_cos : \iota \Rightarrow \iota$ be given. Let $k17_complex1 : \iota \Rightarrow \iota$ be given. Let $r1_xreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
& \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k5_numbers k1_numbers) \wedge \\
& (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers)))))) \Rightarrow \\
& ((\forall X1.(m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (r1_xreal_0 \\
& k6_numbers (k8_nat_1 k1_numbers X0 X1))) \Rightarrow ((\forall X1.(m2_subset_1 \\
& X1 k1_numbers k5_numbers) \Rightarrow (\forall X2.(m2_subset_1 X2 k1_numbers \\
& k5_numbers) \Rightarrow ((r1_xreal_0 X1 X2) \Rightarrow (k18_complex1 (k9_real_1 (\\
& k8_nat_1 k1_numbers (k3_series_1 X0) X2) (k8_nat_1 k1_numbers \\
& (k3_series_1 X0) X1)) = k9_real_1 (k8_nat_1 k1_numbers (k3_series_1 \\
& X0) X2) (k8_nat_1 k1_numbers (k3_series_1 X0) X1)))))) \wedge (\forall X1. \\
& (m2_subset_1 X1 k1_numbers k5_numbers) \Rightarrow (k18_complex1 (k8_nat_1 \\
& k1_numbers (k3_series_1 X0) X1) = k8_nat_1 k1_numbers (k3_series_1 \\
& X0) X1))))))
\end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (\forall X1.(m2_subset_1 \\
& X1 k1_numbers k5_numbers) \Rightarrow (r1_xreal_0 k6_numbers (k8_nat_1 \\
& k1_numbers (k4_sin_cos (k17_complex1 X0)) X1)))
\end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
& \forall X0.(v1_xreal_0 X0) \Rightarrow ((v1_funct_1 (k4_sin_cos X0)) \wedge ((\\
& v1_funct_2 (k4_sin_cos X0) k5_numbers k1_numbers) \wedge (m1_subset_1 \\
& (k4_sin_cos X0) (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers k1_numbers))))))
\end{aligned} \tag{3}$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Rightarrow (m1_subset_1 (k17_complex1 X0) k1_numbers) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (v1_xcmplx_0 X0) \quad (5)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (v1_xreal_0 X0) \quad (6)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k2_numbers) \Rightarrow (\forall X1.(m2_subset_1 \\ & X1 k1_numbers k5_numbers) \Rightarrow (\forall X2.(m2_subset_1 X2 k1_numbers \\ & k5_numbers) \Rightarrow ((k18_complex1 (k8_nat_1 k1_numbers (k3_series_1 \\ & (k4_sin_cos (k17_complex1 X0))) X1) = k8_nat_1 k1_numbers (k3_series_1 \\ & (k4_sin_cos (k17_complex1 X0))) X1) \wedge ((r1_xreal_0 X1 X2) \Rightarrow (k18_complex1 \\ & (k9_real_1 (k8_nat_1 k1_numbers (k3_series_1 (k4_sin_cos (k17_complex1 \\ & X0))) X2) (k8_nat_1 k1_numbers (k3_series_1 (k4_sin_cos (k17_complex1 \\ & X0))) X1) = k9_real_1 (k8_nat_1 k1_numbers (k3_series_1 (k4_sin_cos \\ & (k17_complex1 X0))) X2) (k8_nat_1 k1_numbers (k3_series_1 (k4_sin_cos \\ & (k17_complex1 X0))) X1)))))) \end{aligned}$$