

l5_sin_cos3 (TMGnYL- SqZRowZcJTE5Hy5wPphPoa837SPgC)

October 27, 2020

Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k10_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_numbers : \iota$ be given. Let $k3_sin_cos3 : \iota$ be given. Let $k6_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k15_sin_cos : \iota \Rightarrow \iota$ be given. Let $k1_binop_2 : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $v1_xboole_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k3_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.\forall X1.\neg(X0 \in X1) \wedge (v1_xboole_0 X1) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((\neg v1_xboole_0 X0) \wedge \\ & (((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 X2 (k1_zfmisc_1 \\ & (k2_zfmisc_1 X0 X1)))))) \wedge (m1_subset_1 X3 X0))) \Rightarrow (k3_funct_2 X0 \\ & X1 X2 X3 = k1_funct_1 X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\neg v1_xboole_0 k2_numbers \quad (4)$$

Assume the following.

$$\begin{aligned} & (v1_funct_1 k3_sin_cos3) \wedge ((v1_funct_2 k3_sin_cos3 k2_numbers \\ & k2_numbers) \wedge (m1_subset_1 k3_sin_cos3 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k2_numbers k2_numbers)))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_funct_1 X0) \wedge ((v1_funct_2 X0 k2_numbers k2_numbers) \wedge \\ & (m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k2_numbers k2_numbers)))))) \Rightarrow \\ & ((X0 = k3_sin_cos3) \Leftrightarrow (\forall X1.(m1_subset_1 X1 k2_numbers) \Rightarrow \\ & (k3_funct_2 k2_numbers k2_numbers X0 X1 = k6_binop_2 (k4_binop_2 \\ & (k15_sin_cos X1) (k15_sin_cos (k1_binop_2 X1))) np_2))) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0.(v1_xcmplx_0 X0) \Leftrightarrow (X0 \in k2_numbers) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1_xboole_0 X0) \Rightarrow (\forall X1.(\neg v1_xboole_0 X1) \Rightarrow \\ & (\forall X2.((v1_funct_1 X2) \wedge ((v1_funct_2 X2 X0 X1) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))) \Rightarrow (\forall X3.(X3 \in X0) \Rightarrow \\ & (k10_funct_2 X0 X1 X2 X3 = k1_funct_1 X2 X3))) \end{aligned} \quad (8)$$

Theorem 1

$$\begin{aligned} & \forall X0.(v1_xcmplx_0 X0) \Rightarrow (k10_funct_2 k2_numbers k2_numbers \\ & k3_sin_cos3 X0 = k6_binop_2 (k4_binop_2 (k15_sin_cos X0) (k15_sin_cos \\ & (k1_binop_2 X0))) np_2) \end{aligned}$$