# l87_sin_cos (TMVpK3uS7S2tgXP4Coqe7kZfMEFSBLhdY5E)

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Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24\_sin\_cos : \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v2\_comseq\_3 : \iota \Rightarrow o$ be given. Let $k3\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $k5\_complex1 : \iota$ be given. Let $k11\_comseq\_3 : \iota \Rightarrow \iota$ be given. Let $k6\_complex1 : \iota$ be given. Let $k3\_complex1 : \iota \Rightarrow \iota$ be given. Let $k4\_complex1 : \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $v1\_series\_1 : \iota \Rightarrow o$ be given. Let $k4\_sin\_cos : \iota \Rightarrow \iota$ be given. Let $k4\_series\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $v1\_xcmplx\_0 : \iota \Rightarrow o$ 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 $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Assume the following.

$$(v2\_comseq\_3\ (k3\_sin\_cos\ k5\_complex1)) \wedge (k11\_comseq\_3\ (k3\_sin\_cos\ k5\_complex1) = k6\_complex1) \tag{1}$$

Assume the following.

$$(k3\_complex1\ k6\_complex1 = np\_\_1) \wedge (k4\_complex1\ k6\_complex1 = k6\_numbers) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow ((v1\_series\_1\ (k4\_sin\_cos\ X0)) \wedge (k4\_series\_1\ (k4\_sin\_cos\ X0) = k3\_complex1\ (k11\_comseq\_3\ (k3\_sin\_cos\ X0)))) \tag{3}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1) \wedge (m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers)) \wedge ((m1\_subset\_1\ np\_\_1\ k5\_numbers) \wedge (m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{4}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{5}$$

Assume the following.

$$k5\_complex1 = k1\_xboole\_0 \tag{6}$$

Assume the following.

$$v1\_xboole\_0\ k1\_xboole\_0 \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0) \Rightarrow (m1\_subset\_1\ (k4\_complex1\ X0)\ k1\_numbers) \tag{8}$$

Assume the following.

$$(v1\_funct\_1\ k24\_sin\_cos) \wedge ((v1\_funct\_2\ k24\_sin\_cos\ k1\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ k24\_sin\_cos\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \tag{9}$$

Assume the following.

$$k6\_complex1 = np\_\_1 \tag{10}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge ((v1\_funct\_2\ X0\ k1\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))) \Rightarrow ((X0 = k24\_sin\_cos) \Leftrightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (k1\_seq\_1\ X0\ X1 = k4\_series\_1\ (k4\_sin\_cos\ X1)))) \tag{11}$$

Assume the following.

$$\forall X0.(v1\_xboole\_0\ X0) \Rightarrow (v7\_ordinal1\ X0) \tag{12}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0) \Rightarrow (v1\_xreal\_0\ X0) \tag{13}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (v1\_xcmplx\_0\ X0) \tag{14}$$

**Theorem 1** $k1\_seq\_1\ k24\_sin\_cos\ k6\_numbers = np\_\_1$.