

t66\_sin\_cos  
(TMX45PVkbJzUXLVX2tgdjpasg7683yKyEBu)

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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  $k24\_sin\_cos : \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole\_0 : \iota$  be given. Let  $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0.((v3\_rcomp\_1 X0) \wedge (m1\_subset\_1 X0 (k1\_zfmisc\_1 k1\_numbers))) \Rightarrow \\ & (\forall X1.((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers)))) \Rightarrow ((r2\_fdiff\_1 X1 X0) \Leftrightarrow ((r1\_tarski X0 \\ & (k1\_relset\_1 k1\_numbers X1)) \wedge (\forall X2.(m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\ & ((X2 \in X0) \Rightarrow (r1\_fdiff\_1 X1 X2)))))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((r1\_fdiff\_1 k24\_sin\_cos X0) \wedge (k1\_fdiff\_1 k24\_sin\_cos X0 = k1\_seq\_1 k24\_sin\_cos X0)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \tag{3}$$

Assume the following.

$$v3\_rcomp\_1 (k2\_subset\_1 k1\_numbers) \tag{4}$$

Assume the following.

$$v1\_xboole\_0 k1\_xboole\_0 \tag{5}$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \tag{6}$$

Assume the following.

$$\forall X0.m1\_subset\_1 (k2\_subset\_1 X0) (k1\_zfmisc\_1 X0) \quad (7)$$

Assume the following.

$$(v1\_funct\_1 k24\_sin\_cos) \wedge ((v1\_funct\_2 k24\_sin\_cos k1\_numbers k1\_numbers) \wedge (m1\_subset\_1 k24\_sin\_cos (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \quad (8)$$

Assume the following.

$$\forall X0.k2\_subset\_1 X0 = X0 \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (((X1 \neq k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 X2 X0 X1) \Leftrightarrow (X0 = k1\_relset\_1 X0 X2))) \wedge ((X1 = k1\_xboole\_0) \Rightarrow ((v1\_funct\_2 X2 X0 X1) \Leftrightarrow (X2 = k1\_xboole\_0)))) \quad (10)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (11)$$

**Theorem 1**

$$\forall X0.(v1\_xreal\_0 X0) \Rightarrow ((r2\_fdiff\_1 k24\_sin\_cos k1\_numbers) \wedge (k1\_fdiff\_1 k24\_sin\_cos X0 = k1\_seq\_1 k24\_sin\_cos X0))$$