t101_sin_cos9 (TMQVxf-FAWyyL5hi6KbENKFCKdGeKFB2mfkB)

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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 $k1\_numbers : \iota$ 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 $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k1\_taylor\_1 : \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $r2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $v3\_valued\_0 : \iota \Rightarrow o$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1) \wedge (v4\_relat\_1\ X1\ X0)) \Rightarrow (k1\_relset\_1\ X0\ X1 = k9\_xtuple\_0\ X1) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.((v3\_rcomp\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k1\_numbers))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (((r1\_tarski\ X1\ (k9\_xtuple\_0\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X2\ X3))) \wedge ((\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow ((X4 \in X1) \Rightarrow (k1\_seq\_1\ X2\ X4 = X0))) \wedge (X3 = k1\_taylor\_1\ np\_\_2))) \Rightarrow ((r2\_fdiff\_1\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X2\ X3)\ X1) \wedge (\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow ((X4 \in X1) \Rightarrow (k1\_seq\_1\ (k2\_fdiff\_1\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X2\ X3)\ X1)\ X4 = k8\_real\_1\ np\_\_2\ X4)))))))) \tag{2}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_membered\ X1)\wedge((v3\_membered\ X2)\wedge(((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)))))))\Rightarrow((v1\_funct\_1\ (k3\_valued\_1\ X0\ X1\ X2\ X3\ X4))\wedge(m1\_subset\_1\ (k3\_valued\_1\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v3\_valued\_0\ X0)))\Rightarrow(m1\_subset\_1\ (k1\_seq\_1\ X0\ X1)\ k1\_numbers) \tag{5}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X1.(r2\_fdiff\_1\ X0\ X1)\Leftrightarrow((r1\_tarski\ X1\ (k1\_relset\_1\ k1\_numbers\ X0))\wedge(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow((X2\in X1)\Rightarrow(r1\_fdiff\_1\ (k2\_partfun1\ k1\_numbers\ k1\_numbers\ X0\ X1)\ X2))))) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow((v4\_relat\_1\ X2\ X0)\wedge(v5\_relat\_1\ X2\ X1)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v3\_valued\_0\ X2)) \tag{9}$$

Theorem 1

$$\forall X0.((v3\_rcomp\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers)))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(((r1\_tarski\ X0\ (k1\_relset\_1\ k1\_numbers\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2)))\wedge((\forall X3.(m1\_subset\_1\ X3\ k1\_numbers)\Rightarrow((X3\in X0)\Rightarrow(k1\_seq\_1\ X1\ X3 = np\_\_1)))\wedge(X2 = k1\_taylor\_1\ np\_\_2)))\Rightarrow((r2\_fdiff\_1\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2)\ X0)\wedge(\forall X3.(m1\_subset\_1\ X3\ k1\_numbers)\Rightarrow((X3\in X0)\Rightarrow(k1\_seq\_1\ (k2\_fdiff\_1\ (k3\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2)\ X0)\ X3 = k8\_real\_1\ np\_\_2\ X3)))))))$$