

t58\_sincos10 (TM-  
dUZij2Gj8iKmnnyYd2W2LnZX4qoGWE6th)

October 27, 2020

Let  $k1\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_sincos10 : \iota$  be given. Let  $k1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k7\_square\_1 : \iota \Rightarrow \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $np\_1 : \iota$  be given. Let  $k1\_fdiff\_9 : \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $np\_3 : \iota$  be given. Let  $np\_4 : \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $k1\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_zfmisc\_1 : \iota \Rightarrow \iota$  be given. Let  $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned}
 &k3\_relat\_1 (k2\_partfun1\ k1\_numbers\ k1\_numbers\ k2\_sincos10\ (k1\_rcomp\_1 \\
 &\quad (k1\_real\_1\ (k7\_square\_1\ np\_2))\ (k1\_real\_1\ np\_1)))\ (k2\_partfun1 \\
 &\quad k1\_numbers\ k1\_numbers\ k1\_fdiff\_9\ (k1\_rcomp\_1\ (k8\_real\_1\ (k10\_real\_1 \\
 &\quad np\_3\ np\_4)\ k32\_sin\_cos)\ k32\_sin\_cos)) = k1\_partfun2\ k1\_numbers \\
 &\quad (k1\_rcomp\_1\ (k1\_real\_1\ (k7\_square\_1\ np\_2))\ (k1\_real\_1\ np\_1))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 &\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.\forall X5. \\
 &\quad (((v1\_funct\_1\ X4) \wedge (m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\
 &\quad X0\ X1)))) \wedge ((v1\_funct\_1\ X5) \wedge (m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\
 &\quad X2\ X3)))))) \Rightarrow (k1\_partfun1\ X0\ X1\ X2\ X3\ X4\ X5 = k3\_relat\_1\ X4\ X5)
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned}
 &(v1\_funct\_1\ k2\_sincos10) \wedge (m1\_subset\_1\ k2\_sincos10\ (k1\_zfmisc\_1 \\
 &\quad (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))
 \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned}
 &\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1\ X2) \wedge \\
 &\quad (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))) \Rightarrow ((v1\_funct\_1 \\
 &\quad (k2\_partfun1\ X0\ X1\ X2\ X3)) \wedge (m1\_subset\_1\ (k2\_partfun1\ X0\ X1\ X2\ X3) \\
 &\quad (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))
 \end{aligned} \tag{4}$$

Assume the following.

$$(v1\_funct\_1 k1\_fdiff\_9) \wedge (m1\_subset\_1 k1\_fdiff\_9 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))) \quad (5)$$

**Theorem 1**

$$\begin{aligned} & k1\_partfun1 k1\_numbers k1\_numbers k1\_numbers k1\_numbers (k2\_partfun1 \\ & k1\_numbers k1\_numbers k2\_sincos10 (k1\_rcomp\_1 (k1\_real\_1 (k7\_square\_1 \\ & \quad np\_2)) (k1\_real\_1 np\_1))) (k2\_partfun1 k1\_numbers k1\_numbers \\ & k1\_fdiff\_9 (k1\_rcomp\_1 (k8\_real\_1 (k10\_real\_1 np\_3 np\_4) k32\_sin\_cos) \\ & \quad k32\_sin\_cos)) = k1\_partfun2 k1\_numbers (k1\_rcomp\_1 (k1\_real\_1 \\ & \quad (k7\_square\_1 np\_2)) (k1\_real\_1 np\_1)) \end{aligned}$$