

# t63\_sincos10 (TMTgvDNebLBTHiKVYVnSxn- tamQBJCWGvA7r)

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Let  $k3\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k2\_fdiff\_9 : \iota$  be given. Let  $k3\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_real\_1 : \iota \Rightarrow \iota$  be given. Let  $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $np\_2 : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k3\_sincos10 : \iota$  be given. Let  $k1\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_funct\_1 : \iota \Rightarrow o$  be given. Let  $v2\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_funct\_1 : \iota \Rightarrow \iota$  be given. Let  $k4\_relat\_1 : \iota \Rightarrow \iota$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k10\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  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. Let  $k2\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} & \forall X0. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v2\_funct\_1 X0) \Rightarrow \\ & ((k3\_relat\_1 X0 (k2\_funct\_1 X0) = k4\_relat\_1 (k9\_xtuple\_0 X0)) \wedge \\ & (k3\_relat\_1 (k2\_funct\_1 X0) X0 = k4\_relat\_1 (k10\_xtuple\_0 X0)))) \end{aligned} \quad (1)$$

Assume the following.

$$k2\_relset\_1 k1\_numbers k3\_sincos10 = k3\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v5\_relat\_1 X1 X0)) \Rightarrow (k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1\_funct\_1 X2) \wedge ((v2\_funct\_1 \\ & X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))) \Rightarrow (k2\_partfun2 \\ & X0 X1 X2 = k2\_funct\_1 X2) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow(k2\_partfun1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((\neg v1\_xboole\_0 X0)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)))\Rightarrow(k1\_partfun2 X0 X1 = k4\_relat\_1 X1) \quad (6)$$

Assume the following.

$$k2\_funct\_1 k3\_sincos10 = k2\_partfun1 k1\_numbers k1\_numbers k2\_fdiff\_9 (k3\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers) \quad (7)$$

Assume the following.

$$(v1\_funct\_1 k3\_sincos10)\wedge(v2\_funct\_1 k3\_sincos10) \quad (8)$$

Assume the following.

$$(v1\_relat\_1 (k5\_relat\_1 k2\_fdiff\_9 (k3\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers)))\wedge(v2\_funct\_1 (k5\_relat\_1 k2\_fdiff\_9 (k3\_rcomp\_1 (k1\_real\_1 (k10\_real\_1 k32\_sin\_cos np\_2)) k6\_numbers))) \quad (9)$$

Assume the following.

$$\neg v1\_xboole\_0 k1\_numbers \quad (10)$$

Assume the following.

$$(v1\_funct\_1 k3\_sincos10)\wedge(m1\_subset\_1 k3\_sincos10 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))) \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k2\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((v1\_funct\_1 (k2\_partfun1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \quad (13)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k2\_funct\_1 X0))\wedge(v1\_funct\_1 (k2\_funct\_1 X0))) \quad (14)$$

Assume the following.

$$(v1\_funct\_1 \ k2\_fdiff\_9) \wedge (m1\_subset\_1 \ k2\_fdiff\_9 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ k1\_numbers \ k1\_numbers))) \quad (15)$$

Assume the following.

$$k3\_sincos10 = k2\_partfun2 \ k1\_numbers \ k1\_numbers \ (k2\_partfun1 \ k1\_numbers \ k1\_numbers \ k2\_fdiff\_9 \ (k3\_rcomp\_1 \ (k1\_real\_1 \ (k10\_real\_1 \ k32\_sin\_cos \ np\_2)) \ k6\_numbers)) \quad (16)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 \ X2 \ (k1\_zfmisc\_1 \ (k2\_zfmisc\_1 \ X0 \ X1))) \Rightarrow ((v4\_relat\_1 \ X2 \ X0) \wedge (v5\_relat\_1 \ X2 \ X1)) \quad (17)$$

**Theorem 1**

$$k3\_relat\_1 \ (k2\_partfun1 \ k1\_numbers \ k1\_numbers \ k2\_fdiff\_9 \ (k3\_rcomp\_1 \ (k1\_real\_1 \ (k10\_real\_1 \ k32\_sin\_cos \ np\_2)) \ k6\_numbers)) \ k3\_sincos10 = k1\_partfun2 \ k1\_numbers \ (k3\_rcomp\_1 \ (k1\_real\_1 \ (k10\_real\_1 \ k32\_sin\_cos \ np\_2)) \ k6\_numbers)$$