

t85\_sin\_cos6 (TMKC-  
QzfMTqMmN1qQj9kFee4c2wfRZgyyVbQ)

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Let  $k2\_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k4\_sin\_cos6 : \iota$  be given. Let  $k1\_rcomp.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k32\_sin\_cos : \iota$  be given. Let  $v1\_xboole.0 : \iota \Rightarrow o$  be given. Let  $k1\_xboole.0 : \iota$  be given. Let  $v1\_relat.1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple.0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat.1 : \iota \Rightarrow \iota \Rightarrow \iota$  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  $v2\_funct.1 : \iota \Rightarrow o$  be given. Let  $k10\_xtuple.0 : \iota \Rightarrow \iota$  be given. Let  $k2\_funct.1 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_sin\_cos : \iota$  be given. Let  $k19\_sin\_cos : \iota$  be given. Let  $k2\_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_relset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k31\_sin\_cos : \iota$  be given. Let  $v5\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_partfun2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat.1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_xcmplx.0 : \iota \Rightarrow o$  be given. Let  $v1\_xxreal.0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal.0 : \iota \Rightarrow o$  be given. Let  $v1\_funct.2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0.(v1\_xboole.0 X0) \Rightarrow (X0 = k1\_xboole.0) \quad (1)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat.1 X1) \Rightarrow ((r1\_tarski X0 (k9\_xtuple.0 X1)) \Rightarrow (k9\_xtuple.0 (k5\_relat.1 X1 X0) = X0)) \quad (2)$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset.1 X0 (k1\_zfmisc.1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.((v1\_relat.1 X0) \wedge (v1\_funct.1 X0)) \Rightarrow ((v2\_funct.1 X0) \Rightarrow ((k10\_xtuple.0 X0 = k9\_xtuple.0 (k2\_funct.1 X0)) \wedge (k9\_xtuple.0 X0 = k10\_xtuple.0 (k2\_funct.1 X0)))) \quad (4)$$

Assume the following.

$$(k1\_relset.1 k1\_numbers k16\_sin\_cos = k1\_numbers) \wedge (k1\_relset.1 k1\_numbers k19\_sin\_cos = k1\_numbers) \quad (5)$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(k5\_relset\_1 X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \quad (7)$$

Assume the following.

$$k32\_sin\_cos = k31\_sin\_cos \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v5\_relat\_1 X1 X0))\Rightarrow(k2\_relset\_1 X0 X1 = k10\_xtuple\_0 X1) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2)\wedge((v2\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))))\Rightarrow(k2\_partfun2 X0 X1 X2 = k2\_funct\_1 X2) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (11)$$

Assume the following.

$$\exists X0.(v1\_xboole\_0 X0)\wedge((v1\_xcmplx\_0 X0)\wedge((v1\_xxreal\_0 X0)\wedge(v1\_xreal\_0 X0))) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X0)\wedge(v1\_funct\_1 X0))\Rightarrow((v1\_relat\_1 (k5\_relat\_1 X0 X1))\wedge(v1\_funct\_1 (k5\_relat\_1 X0 X1))) \quad (13)$$

Assume the following.

$$(v1\_relat\_1 (k5\_relat\_1 k19\_sin\_cos (k1\_rcomp\_1 k6\_numbers k32\_sin\_cos)))\wedge(v2\_funct\_1 (k5\_relat\_1 k19\_sin\_cos (k1\_rcomp\_1 k6\_numbers k32\_sin\_cos))) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(m1\_subset\_1 (k5\_relset\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \quad (15)$$

Assume the following.

$$(v1\_funct\_1\ k4\_sin\_cos6) \wedge (m1\_subset\_1\ k4\_sin\_cos6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))) \quad (16)$$

Assume the following.

$$v1\_xreal\_0\ k31\_sin\_cos \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_xreal\_0\ X0) \wedge (v1\_xreal\_0\ X1)) \Rightarrow (m1\_subset\_1\ (k1\_rcomp\_1\ X0\ X1)\ (k1\_zfmisc\_1\ k1\_numbers)) \quad (18)$$

Assume the following.

$$(v1\_funct\_1\ k19\_sin\_cos) \wedge ((v1\_funct\_2\ k19\_sin\_cos\ k1\_numbers\ k1\_numbers) \wedge (m1\_subset\_1\ k19\_sin\_cos\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \quad (19)$$

Assume the following.

$$k4\_sin\_cos6 = k2\_partfun2\ k1\_numbers\ k1\_numbers\ (k5\_relset\_1\ k1\_numbers\ k1\_numbers\ k19\_sin\_cos\ (k1\_rcomp\_1\ k6\_numbers\ k32\_sin\_cos)) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow ((v4\_relat\_1\ X2\ X0) \wedge (v5\_relat\_1\ X2\ X1)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))) \Rightarrow (v1\_relat\_1\ X2) \quad (22)$$

**Theorem 1**  $k2\_relset\_1\ k1\_numbers\ k4\_sin\_cos6 = k1\_rcomp\_1\ k6\_numbers\ k32\_sin\_cos.$