

t32_sin_cos9 (TMJJC-
CzPK992J8m3MFTRJ12uJLchwMcXna4)

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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 $k30_sin_cos : \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $k2_sin_cos9 : \iota$ 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 $k3_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xboole_0 : \iota \Rightarrow o$ 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 $v4_relat_1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$k2_relset_1 k1_numbers k2_sin_cos9 = k2_rcomp_1 k6_numbers k32_sin_cos \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (\\ & k2_relset_1 X0 X1 = k10_xtuple_0 X1) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((\neg v1_xboole_0 X0) \wedge (m1_subset_1 X1 (k1_zfmisc_1 \\ & X0))) \Rightarrow (k1_partfun2 X0 X1 = k4_relat_1 X1) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. \forall X4. \forall X5. \\ & (((v1_funct_1 X4) \wedge (m1_subset_1 X4 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X0 X1)))) \wedge ((v1_funct_1 X5) \wedge (m1_subset_1 X5 (k1_zfmisc_1 (k2_zfmisc_1 \\ & X2 X3)))))) \Rightarrow (k1_partfun1 X0 X1 X2 X3 X4 X5 = k3_relat_1 X4 X5) \end{aligned} \quad (5)$$

Assume the following.

$$k2_funct_1 k2_sin_cos9 = k2_partfun1 k1_numbers k1_numbers k30_sin_cos \\ (k2_rcomp_1 k6_numbers k32_sin_cos) \quad (6)$$

Assume the following.

$$(v1_funct_1 k2_sin_cos9) \wedge (v2_funct_1 k2_sin_cos9) \quad (7)$$

Assume the following.

$$\neg v1_xboole_0 k1_numbers \quad (8)$$

Assume the following.

$$(v1_funct_1 k30_sin_cos) \wedge (m1_subset_1 k30_sin_cos (k1_zfmisc_1 \\ (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (9)$$

Assume the following.

$$(v1_funct_1 k2_sin_cos9) \wedge (m1_subset_1 k2_sin_cos9 (k1_zfmisc_1 \\ (k2_zfmisc_1 k1_numbers k1_numbers))) \quad (10)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X1) \wedge (v5_relat_1 X1 X0)) \Rightarrow (\\ m1_subset_1 (k2_relset_1 X0 X1) (k1_zfmisc_1 X0)) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 X2) \wedge \\ (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \Rightarrow ((v1_funct_1 \\ (k2_partfun1 X0 X1 X2 X3)) \wedge (m1_subset_1 (k2_partfun1 X0 X1 X2 X3) \\ (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow ((v4_relat_1 X2 X0) \wedge (v5_relat_1 X2 X1)) \quad (13)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 \\ (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (14)$$

Theorem 1

$$k1_partfun1 k1_numbers k1_numbers k1_numbers k1_numbers (k2_partfun1 \\ k1_numbers k1_numbers k30_sin_cos (k2_rcomp_1 k6_numbers k32_sin_cos)) \\ k2_sin_cos9 = k1_partfun2 k1_numbers (k2_rcomp_1 k6_numbers k32_sin_cos)$$