

l42_sin_cos9 (TMT- mmHWTHS1xRzdkrVJkg4puj8oiAK6eVFp)

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Let $v6_valued_0 : \iota \Rightarrow o$ be given. Let $k2_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k30_sin_cos : \iota$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k32_sin_cos : \iota$ be given. Let $np_4 : \iota$ be given. Let $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_numbers : \iota$ 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. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_xboole_0 : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k31_sin_cos : \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_relat_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v6_xxreal_2 : \iota \Rightarrow o$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$v6_valued_0 (k2_partfun1 k1_numbers k1_numbers k30_sin_cos (k2_rcomp_1 k6_numbers k32_sin_cos)) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. ((v1_funct_1 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow (((r1_tarski \\ & X0 X1) \wedge (v6_valued_0 (k2_partfun1 k1_numbers k1_numbers X2 X1))) \Rightarrow \\ & (v6_valued_0 (k2_partfun1 k1_numbers k1_numbers X2 X0))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1_subset_1 X0 X1) \quad (3)$$

Assume the following.

$$m1_subset_1 k1_xboole_0 k4_ordinal1 \quad (4)$$

Assume the following.

$$k6_numbers = k1_xboole_0 \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$k32_sin_cos = k31_sin_cos \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(k2_rcomp_1 X0 X1 = k4_xxreal_1 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))\Rightarrow(k2_partfun1 X0 X1 X2 X3 = k5_relat_1 X2 X3) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (10)$$

Assume the following.

$$k8_real_1 (k10_real_1 np_3 np_4) k32_sin_cos \in k2_rcomp_1 k6_numbers k32_sin_cos \quad (11)$$

Assume the following.

$$k10_real_1 k32_sin_cos np_4 \in k2_rcomp_1 k6_numbers k32_sin_cos \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.((v1_funct_1 X0)\wedge((v6_valued_0 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))))\Rightarrow((v1_funct_1 (k5_relat_1 X0 X1))\wedge(v6_valued_0 (k5_relat_1 X0 X1))) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(v6_xxreal_2 (k4_xxreal_1 X0 X1)) \quad (14)$$

Assume the following.

$$m1_subset_1 k5_numbers (k1_zfmisc_1 k1_numbers) \quad (15)$$

Assume the following.

$$v1_xreal_0 k31_sin_cos \quad (16)$$

Assume the following.

$$(v1_funct_1 \ k30_sin_cos) \wedge (m1_subset_1 \ k30_sin_cos \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ k1_numbers \ k1_numbers))) \quad (17)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xxreal_0 \ X0) \wedge (v1_xxreal_0 \ X1)) \Rightarrow (m1_subset_1 \ (k2_rcomp_1 \ X0 \ X1) \ (k1_zfmisc_1 \ k1_numbers)) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. \forall X3. ((v1_funct_1 \ X2) \wedge (m1_subset_1 \ X2 \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))) \Rightarrow ((v1_funct_1 \ (k2_partfun1 \ X0 \ X1 \ X2 \ X3)) \wedge (m1_subset_1 \ (k2_partfun1 \ X0 \ X1 \ X2 \ X3) \ (k1_zfmisc_1 \ (k2_zfmisc_1 \ X0 \ X1)))) \quad (19)$$

Assume the following.

$$\forall X0. (v2_membered \ X0) \Rightarrow ((v6_xxreal_2 \ X0) \Leftrightarrow (\forall X1. (v1_xxreal_0 \ X1) \Rightarrow (\forall X2. (v1_xxreal_0 \ X2) \Rightarrow (((X1 \in X0) \wedge (X2 \in X0)) \Rightarrow (r1_tarski \ (k1_xxreal_1 \ X1 \ X2 \ X0)))))) \quad (20)$$

Assume the following.

$$\forall X0. (m1_subset_1 \ X0 \ (k1_zfmisc_1 \ k1_numbers)) \Rightarrow (v3_membered \ X0) \quad (21)$$

Assume the following.

$$\forall X0. (v1_xreal_0 \ X0) \Rightarrow (v1_xxreal_0 \ X0) \quad (22)$$

Assume the following.

$$\forall X0. (v3_membered \ X0) \Rightarrow (v2_membered \ X0) \quad (23)$$

Assume the following.

$$\forall X0. (v3_membered \ X0) \Rightarrow (\forall X1. (m1_subset_1 \ X1 \ X0) \Rightarrow (v1_xreal_0 \ X1)) \quad (24)$$

Theorem 1

$$v6_valued_0 \ (k2_partfun1 \ k1_numbers \ k1_numbers \ (k2_partfun1 \ k1_numbers \ k1_numbers \ k30_sin_cos \ (k1_rcomp_1 \ (k10_real_1 \ k32_sin_cos \ np_4) \ (k8_real_1 \ (k10_real_1 \ np_3 \ np_4) \ k32_sin_cos)))) \ (k1_rcomp_1 \ (k10_real_1 \ k32_sin_cos \ np_4) \ (k8_real_1 \ (k10_real_1 \ np_3 \ np_4) \ k32_sin_cos)))$$