

t38_fdifff_7 (TMZvzQT-
fGbx4HrtTvL7MVH2tZuds9bdw8BK)

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Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_relset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16_sin_cos : \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $r2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k1_funct_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_int_1 : \iota \Rightarrow o$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $v1_funct_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k16_sin_cos k1_numbers) \wedge (k1_fdiff_1 k16_sin_cos X0 = k1_seq_1 k19_sin_cos X0)) \quad (1)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r2_fdiff_1 k19_sin_cos k1_numbers) \wedge (k1_fdiff_1 k19_sin_cos X0 = k1_real_1 (k1_seq_1 k16_sin_cos X0))) \quad (2)$$

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.

$$\forall X0.\forall X1.((v3_rcomp_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 k1_numbers))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow ((r2_fdiff_1 X2 X0) \wedge (r1_tarski X1 X0)) \Rightarrow (r2_fdiff_1 X2 X1)) \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & (\forall X1.((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & k1_numbers k1_numbers)))) \Rightarrow (\forall X2.((v1_funct_1 X2) \wedge (m1_subset_1 \\ & X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow (((r1_tarski \\ & X0 (k1_relset_1 k1_numbers (k3_valued_1 k1_numbers k1_numbers \\ & k1_numbers X1 X2))) \wedge ((r2_fdiff_1 X1 X0) \wedge (r2_fdiff_1 X2 X0))) \Rightarrow \\ & ((r2_fdiff_1 (k3_valued_1 k1_numbers k1_numbers k1_numbers X1 \\ & X2) X0) \wedge (\forall X3.(m1_subset_1 X3 k1_numbers) \Rightarrow ((X3 \in X0) \Rightarrow (k1_seq_1 \\ & (k2_fdiff_1 (k3_valued_1 k1_numbers k1_numbers k1_numbers X1 \\ & X2) X0) X3 = k7_real_1 (k1_fdiff_1 X1 X3) (k1_fdiff_1 X2 X3))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_xcmplx_0 X0) \wedge (v1_xcmplx_0 X1)) \Rightarrow (k2_xcmplx_0 X0 (k4_xcmplx_0 X1) = k6_xcmplx_0 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1) \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (8)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (9)$$

Assume the following.

$$\forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (k1_real_1 X0 = k4_xcmplx_0 X0) \quad (10)$$

Assume the following.

$$\exists X0. (m1_subset_1 X0 k1_numbers) \wedge ((v1_xxreal_0 X0) \wedge ((v1_xcmplx_0 X0) \wedge ((v1_xreal_0 X0) \wedge (v1_int_1 X0)))) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v3_valued_0 X0))) \Rightarrow (v1_xreal_0 (k1_funct_1 X0 X1)) \quad (12)$$

Assume the following.

$$\forall X0. \forall X1. ((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (13)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0\ X0)))\Rightarrow(m1_subset_1\ (k1_seq_1\ X0\ X1)\ k1_numbers) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_funct_1\ X0)\wedge(m1_subset_1\ X0\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers))))\wedge(v1_xreal_0\ X1))\Rightarrow(m1_subset_1\ (k1_fdiff_1\ X0\ X1)\ k1_numbers) \quad (16)$$

Assume the following.

$$(v1_funct_1\ k19_sin_cos)\wedge((v1_funct_2\ k19_sin_cos\ k1_numbers\ k1_numbers)\wedge(m1_subset_1\ k19_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers)))) \quad (17)$$

Assume the following.

$$(v1_funct_1\ k16_sin_cos)\wedge((v1_funct_2\ k16_sin_cos\ k1_numbers\ k1_numbers)\wedge(m1_subset_1\ k16_sin_cos\ (k1_zfmisc_1\ (k2_zfmisc_1\ k1_numbers\ k1_numbers)))) \quad (18)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_relat_1\ X2) \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v3_valued_0\ X2)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \quad (22)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(\forall X1.(m1_subset_1\ X1\ X0)\Rightarrow(v1_xreal_0\ X1)) \quad (23)$$

Theorem 1

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0) \wedge (m1_subset_1 X0 (k1_zfmisc_1 k1_numbers))) \Rightarrow \\ & \quad ((r1_tarski X0 (k1_relset_1 k1_numbers (k3_valued_1 k1_numbers \\ & \quad k1_numbers k1_numbers k16_sin_cos k19_sin_cos))) \Rightarrow ((r2_fdiff_1 \\ & (k3_valued_1 k1_numbers k1_numbers k1_numbers k16_sin_cos k19_sin_cos) \\ & \quad X0) \wedge (\forall X1.(m1_subset_1 X1 k1_numbers) \Rightarrow ((X1 \in X0) \Rightarrow (k1_seq_1 \\ & (k2_fdiff_1 (k3_valued_1 k1_numbers k1_numbers k1_numbers k16_sin_cos \\ & \quad k19_sin_cos) X0) X1 = k9_real_1 (k1_seq_1 k19_sin_cos X1) (k1_seq_1 \\ & \quad k16_sin_cos X1)))))) \end{aligned}$$