

t44_fdifff_7

(TMYoBDJ5vTZp3p2cs9aSUcXRPrMPEijjC8R)

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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 $k1_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k24_sin_cos : \iota$ be given. Let $k16_sin_cos : \iota$ 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 $k8_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19_sin_cos : \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1_fdiff_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2_funct_1 : \iota \Rightarrow o$ be given. Let $k2_subset_1 : \iota \Rightarrow \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6_numbers : \iota$ be given. Let $k2_reset_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_limfunct1 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1_xxreal_0 : \iota \Rightarrow o$ 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.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow ((r1_fdiff_1 k16_sin_cos X0) \wedge (k1_fdiff_1 k16_sin_cos X0 = k1_seq_1 k19_sin_cos X0)) \quad (2)$$

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.

$$\begin{aligned} & \forall X0.\forall X1.((v3_rcomp_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 \\ & \quad k1_numbers)))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 X2 \\ & \quad (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow(((r2_fdiff_1 \\ & \quad X2 X0)\wedge(r1_tarski X1 X0))\Rightarrow(r2_fdiff_1 X2 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v3_rcomp_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)))\Rightarrow \\ & \quad (\forall X1.((v1_funct_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 \\ & \quad k1_numbers k1_numbers))))\Rightarrow(\forall X2.((v1_funct_1 X2)\wedge(m1_subset_1 \\ & \quad X2 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\Rightarrow(((r1_tarski \\ & \quad X0 (k1_relset_1 k1_numbers (k20_valued_1 k1_numbers k1_numbers \\ & \quad k1_numbers X1 X2))\wedge((r2_fdiff_1 X1 X0)\wedge(r2_fdiff_1 X2 X0))\Rightarrow \\ & \quad ((r2_fdiff_1 (k20_valued_1 k1_numbers k1_numbers k1_numbers \\ & \quad X1 X2) X0)\wedge(\forall X3.(m1_subset_1 X3 k1_numbers)\Rightarrow((X3 \in X0)\Rightarrow \\ & \quad (k1_seq_1 (k2_fdiff_1 (k20_valued_1 k1_numbers k1_numbers k1_numbers \\ & \quad X1 X2) X0) X3 = k7_real_1 (k8_real_1 (k1_seq_1 X2 X3) (k1_fdiff_1 \\ & \quad X1 X3)) (k8_real_1 (k1_seq_1 X1 X3) (k1_fdiff_1 X2 X3)))))))))) \end{aligned} \quad (5)$$

Assume the following.

$$\begin{aligned} & (v2_funct_1 k24_sin_cos)\wedge((r2_fdiff_1 k24_sin_cos k1_numbers)\wedge \\ & \quad ((r2_fdiff_1 k24_sin_cos (k2_subset_1 k1_numbers))\wedge((\forall X0. \\ & \quad (m1_subset_1 X0 k1_numbers)\Rightarrow(k1_fdiff_1 k24_sin_cos X0 = k1_seq_1 \\ & \quad k24_sin_cos X0))\wedge((\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(\\ & \quad \neg r1_xxreal_0 (k1_fdiff_1 k24_sin_cos X0) k6_numbers))\wedge((k1_relset_1 \\ & \quad k1_numbers k24_sin_cos = k2_subset_1 k1_numbers)\wedge((k1_relset_1 \\ & \quad k1_numbers k24_sin_cos = k2_subset_1 k1_numbers)\wedge(k2_relset_1 \\ & \quad k1_numbers k24_sin_cos = k3_limfunc1 k6_numbers)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1_xcmplx_0 X0)\wedge((v1_xcmplx_0 \\ & \quad X1)\wedge(v1_xcmplx_0 X2)))\Rightarrow(k3_xcmplx_0 (k2_xcmplx_0 X0 X1) X2 = k2_xcmplx_0 \\ & \quad (k3_xcmplx_0 X0 X2) (k3_xcmplx_0 X1 X2)) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 \\ & \quad X1))\Rightarrow(k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \end{aligned} \quad (8)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 \\ & \quad X1))\Rightarrow(k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \end{aligned} \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(k1_seq_1 X0 X1 = k1_funct_1 X0 X1) \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 X0)))\Rightarrow(v1_xcmplx_0 (k1_funct_1 X0 X1)) \quad (12)$$

Assume the following.

$$v3_membered k1_numbers \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k8_real_1 X0 X1) k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k7_real_1 X0 X1) k1_numbers) \quad (15)$$

Assume the following.

$$(v1_funct_1 k24_sin_cos)\wedge((v1_funct_2 k24_sin_cos k1_numbers k1_numbers)\wedge(m1_subset_1 k24_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\Rightarrow(m1_subset_1 (k1_seq_1 X0 X1) k1_numbers) \quad (17)$$

Assume the following.

$$(v1_funct_1 k19_sin_cos)\wedge((v1_funct_2 k19_sin_cos k1_numbers k1_numbers)\wedge(m1_subset_1 k19_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \quad (18)$$

Assume the following.

$$(v1_funct_1 k16_sin_cos)\wedge((v1_funct_2 k16_sin_cos k1_numbers k1_numbers)\wedge(m1_subset_1 k16_sin_cos (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \quad (19)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k8_real_1 X0 X1 = k8_real_1 X1 X0) \quad (20)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v1_membered X0) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_relat_1 X2) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v3_valued_0 X2)) \quad (23)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))\Rightarrow(v1_valued_0 X2)) \quad (24)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_xreal_0 X1)) \quad (25)$$

Assume the following.

$$\forall X0.(v1_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(v1_xcmplx_0 X1)) \quad (26)$$

Theorem 1

$$\begin{aligned} &\forall X0.((v3_rcomp_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)))\Rightarrow \\ &\quad ((r1_tarski X0 (k1_relset_1 k1_numbers (k20_valued_1 k1_numbers \\ &\quad k1_numbers k1_numbers k24_sin_cos k16_sin_cos)))\Rightarrow((r2_fdiff_1 \\ &\quad (k20_valued_1 k1_numbers k1_numbers k1_numbers k24_sin_cos k16_sin_cos) \\ &\quad X0)\wedge(\forall X1.(m1_subset_1 X1 k1_numbers)\Rightarrow((X1 \in X0)\Rightarrow(k1_seq_1 \\ &\quad (k2_fdiff_1 (k20_valued_1 k1_numbers k1_numbers k1_numbers k24_sin_cos \\ &\quad k16_sin_cos) X0) X1 = k8_real_1 (k1_seq_1 k24_sin_cos X1) (k7_real_1 \\ &\quad (k1_seq_1 k16_sin_cos X1) (k1_seq_1 k19_sin_cos X1)))))) \end{aligned}$$