

t53_limfunc2 (TMSnHjn- RYFq8wNnKE4NutMGHqWUK5VfS43D)

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Let $m1_subset.1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v1_funct.1 : \iota \Rightarrow o$ be given. Let $k1_zfmisc.1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r4_limfunc2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k32_valued.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2_limfunc2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_real.1 : \iota \Rightarrow \iota$ be given. Let $k26_valued.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8_real.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xcmplx.0 : \iota \Rightarrow o$ be given. Let $k3_xcmplx.0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np.1 : \iota$ be given. Let $k4_xcmplx.0 : \iota \Rightarrow \iota$ be given. Let $v2_xxreal.0 : \iota \Rightarrow o$ be given. Let $m2_subset.1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5_numbers : \iota$ be given. Let $v1_xreal.0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k30_valued.1 : \iota \Rightarrow \iota$ be given. Let $k24_valued.1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_relat.1 : \iota \Rightarrow o$ be given. Let $v1_valued.0 : \iota \Rightarrow o$ be given. Let $v3_valued.0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset.1 X0 k1_numbers) \Rightarrow (\forall X1.(m1_subset.1 \\ & X1 k1_numbers) \Rightarrow (\forall X2.((v1_funct.1 X2) \wedge (m1_subset.1 X2 \\ & (k1_zfmisc.1 (k2_zfmisc.1 k1_numbers k1_numbers)))) \Rightarrow ((r4_limfunc2 \\ & X2 X0) \Rightarrow ((r4_limfunc2 (k26_valued.1 k1_numbers k1_numbers X2 X1) \\ & X0) \wedge (k2_limfunc2 (k26_valued.1 k1_numbers k1_numbers X2 X1) X0 = \\ & k8_real.1 X1 (k2_limfunc2 X2 X0)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\forall X0.(v1_xcmplx.0 X0) \Rightarrow (k3_xcmplx.0 np.1 X0 = X0) \quad (2)$$

Assume the following.

$$\forall X0.(v1_xcmplx.0 X0) \Rightarrow (k3_xcmplx.0 X0 (k4_xcmplx.0 np.1) = k4_xcmplx.0 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & ((v2_xxreal.0 np.1) \wedge (m2_subset.1 np.1 k1_numbers k5_numbers)) \wedge \\ & ((m1_subset.1 np.1 k5_numbers) \wedge (m1_subset.1 np.1 k1_numbers)) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k8_real_1 X0 X1 = k3_xcmplx_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3_membered X1)\wedge((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))))))\Rightarrow(k32_valued_1 X0 X1 X2 = k30_valued_1 X2) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3_membered X1)\wedge(((v1_funct_1 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1)))))\wedge(v1_xreal_0 X3)))\Rightarrow(k26_valued_1 X0 X1 X2 X3 = k24_valued_1 X2 X3) \quad (7)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 X0 = k4_xcmplx_0 X0) \quad (8)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 (k1_real_1 X0) = X0) \quad (9)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge(v1_xreal_0 (k4_xcmplx_0 X0))) \quad (10)$$

Assume the following.

$$v3_membered k1_numbers \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k8_real_1 X0 X1) k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_funct_1 X0)\wedge(m1_subset_1 X0 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers))))\wedge(m1_subset_1 X1 k1_numbers))\Rightarrow(m1_subset_1 (k2_limfunc2 X0 X1) k1_numbers) \quad (13)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (14)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_valued_0 X0))) \Rightarrow (k30_valued_1 X0 = k24_valued_1 X0 (k4_xcmplx_0 np_1)) \quad (15)$$

Assume the following.

$$\forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 X1)) \Rightarrow (k8_real_1 X0 X1 = k8_real_1 X1 X0) \quad (16)$$

Assume the following.

$$\forall X0. ((v1_relat_1 X0) \wedge (v3_valued_0 X0)) \Rightarrow ((v1_relat_1 X0) \wedge (v1_valued_0 X0)) \quad (17)$$

Assume the following.

$$\forall X0. (v1_xreal_0 X0) \Rightarrow (v1_xcmplx_0 X0) \quad (18)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v1_relat_1 X2) \quad (19)$$

Assume the following.

$$\forall X0. \forall X1. (v3_membered X1) \Rightarrow (\forall X2. (m1_subset_1 X2 (k1_zfmisc_1 (k2_zfmisc_1 X0 X1))) \Rightarrow (v3_valued_0 X2)) \quad (20)$$

Assume the following.

$$\forall X0. (v3_membered X0) \Rightarrow (\forall X1. (m1_subset_1 X1 X0) \Rightarrow (v1_xreal_0 X1)) \quad (21)$$

Theorem 1

$$\begin{aligned} & \forall X0. (m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1. ((v1_funct_1 X1) \wedge (m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k1_numbers k1_numbers)))) \Rightarrow \\ & ((r4_limfunc2 X1 X0) \Rightarrow ((r4_limfunc2 (k32_valued_1 k1_numbers k1_numbers X1) X0) \wedge (k2_limfunc2 (k32_valued_1 k1_numbers k1_numbers X1) X0 = k1_real_1 (k2_limfunc2 X1 X0)))))) \end{aligned}$$