

l49_jgraph_2

(TMWUtL1kHenMQZEJvKh9GKY5hcAZFjg8CW3)

October 27, 2020

Let $v4_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k15_euclid : \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_real_1 : \iota \Rightarrow \iota$ be given. Let $k17_euclid : \iota \Rightarrow \iota$ be given. Let $k18_euclid : \iota \Rightarrow \iota$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_square_1 : \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k2_xcmplx_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3_square_1 : \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k9_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_real_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_xcmplx_0 : \iota \Rightarrow \iota$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned}
 & \forall X0 : \iota \Rightarrow \iota. \forall X1 : \iota \Rightarrow \iota. ((\forall X2. v1_xreal_0 \\
 & (X1 X2)) \wedge (\forall X2. v1_xreal_0 (X0 X2))) \Rightarrow (((\forall X2. (m1_subset_1 \\
 & X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (\forall X3. (m1_subset_1 \\
 & X3 (u1_struct_0 (k15_euclid np_2)))) \Rightarrow ((X1 (k5_algstr_0 (k15_euclid \\
 & np_2) X2 X3) = k6_xcmplx_0 (X1 X2) (X1 X3)) \wedge (X0 (k5_algstr_0 (k15_euclid \\
 & np_2) X2 X3) = k6_xcmplx_0 (X0 X2) (X0 X3)))))) \wedge (\forall X2. (m1_subset_1 \\
 & X2 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (\forall X3. (m1_subset_1 \\
 & X3 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (k5_square_1 (k12_euclid \\
 & (k5_algstr_0 (k15_euclid np_2) X2 X3)) = k2_xcmplx_0 (k3_square_1 \\
 & (X1 (k5_algstr_0 (k15_euclid np_2) X2 X3))) (k3_square_1 (X0 (\\
 & k5_algstr_0 (k15_euclid np_2) X2 X3)))))) \Rightarrow ((v4_pre_topc (ReplSep \\
 & (toset (\lambda X2 : \iota. m1_subset_1 X2 (u1_struct_0 (k15_euclid np_2)))) \\
 & (\lambda X2 : \iota. r1_xxreal_0 (X1 X2) (X0 X2)) (\lambda X2 : \iota. X2)) (k15_euclid \\
 & np_2)) \wedge (m1_subset_1 (ReplSep (toset (\lambda X2 : \iota. m1_subset_1 \\
 & X2 (u1_struct_0 (k15_euclid np_2)))) (\lambda X2 : \iota. r1_xxreal_0 \\
 & (X1 X2) (X0 X2)) (\lambda X2 : \iota. X2)) (k1_zfmisc_1 (u1_struct_0 (k15_euclid \\
 & np_2))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. \forall X1. ((m1_subset_1 X0 k1_numbers) \wedge (v1_xreal_0 \\
 & X1)) \Rightarrow (k9_real_1 X0 X1 = k6_xcmplx_0 X0 X1)
 \end{aligned} \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(k7_real_1 X0 X1 = k2_xcmplx_0 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k5_square_1 X0 = k3_square_1 X0) \quad (4)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(k1_real_1 X0 = k4_xcmplx_0 X0) \quad (5)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(k5_square_1 (k12_euclid (k5_algstr_0 (k15_euclid np_2) X0 X1)) = \\ &k7_real_1 (k5_square_1 (k1_real_1 (k17_euclid (k5_algstr_0 (\\ &k15_euclid np_2) X0 X1)))) (k5_square_1 (k18_euclid (k5_algstr_0 \\ &(k15_euclid np_2) X0 X1)))))) \end{aligned} \quad (6)$$

Assume the following.

$$\begin{aligned} &\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &(\forall X1.(m1_subset_1 X1 (u1_struct_0 (k15_euclid np_2)))\Rightarrow \\ &((k1_real_1 (k17_euclid (k5_algstr_0 (k15_euclid np_2) X0 X1)) = \\ &k9_real_1 (k1_real_1 (k17_euclid X0)) (k1_real_1 (k17_euclid \\ &X1)))\wedge(k18_euclid (k5_algstr_0 (k15_euclid np_2) X0 X1) = k9_real_1 \\ &(k18_euclid X0) (k18_euclid X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow((v1_xcmplx_0 (k4_xcmplx_0 X0))\wedge (v1_xreal_0 (k4_xcmplx_0 X0))) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((m1_subset_1 X0 k1_numbers)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k9_real_1 X0 X1) k1_numbers) \quad (9)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k5_square_1 X0) k1_numbers) \quad (10)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 k1_numbers)\Rightarrow(m1_subset_1 (k1_real_1 X0) k1_numbers) \quad (11)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (m1_subset_1 (k18_euclid X0) k1_numbers) \quad (12)$$

Assume the following.

$$\forall X0.(m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2))) \Rightarrow (m1_subset_1 (k17_euclid X0) k1_numbers) \quad (13)$$

Assume the following.

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

Theorem 1

$$(v4_pre_topc (ReplSep (toset (\lambda X0 : \iota.m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))) (\lambda X0 : \iota.r1_xxreal_0 (k1_real_1 (k17_euclid X0)) (k18_euclid X0)) (\lambda X0 : \iota.X0) (k15_euclid np_2))) \wedge (m1_subset_1 (ReplSep (toset (\lambda X0 : \iota.m1_subset_1 X0 (u1_struct_0 (k15_euclid np_2)))) (\lambda X0 : \iota.r1_xxreal_0 (k1_real_1 (k17_euclid X0)) (k18_euclid X0)) (\lambda X0 : \iota.X0) (k1_zfmisc_1 (u1_struct_0 (k15_euclid np_2))))))$$