

t37_rcomp_3

(TMR1yt1tUBZph3WarfSHdX5MsUoJ5YUqUUx)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $u1_struct_0 : \iota \Rightarrow \iota$ be given. Let $k2_topalg_2 : \iota$ be given. Let $k2_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_tops_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_numbers : \iota$ be given. Let $k3_topmetr : \iota$ be given. Let $v3_rcomp_1 : \iota \Rightarrow o$ be given. Let $v3_pre_topc : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v2_pre_topc : \iota \Rightarrow o$ be given. Let $l1_pre_topc : \iota \Rightarrow o$ be given. Let $v1_xxreal_0 : \iota \Rightarrow o$ be given. Let $k4_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 (k1_zfmisc_1 k1_numbers)) \Rightarrow (\forall X1. \\ & (m1_subset_1 X1 (k1_zfmisc_1 (u1_struct_0 k3_topmetr))) \Rightarrow ((X0 = X1) \Rightarrow ((v3_rcomp_1 X0) \Leftrightarrow (v3_pre_topc X1 k3_topmetr)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v2_pre_topc X0) \wedge (l1_pre_topc X0)) \Rightarrow (\forall X1. \\ & (l1_pre_topc X1) \Rightarrow (\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 X0))) \Rightarrow (\forall X3.(m1_subset_1 X3 (k1_zfmisc_1 (u1_struct_0 X1))) \Rightarrow (((v3_pre_topc X3 X1) \Rightarrow (k1_tops_1 X1 X3 = X3)) \wedge ((k1_tops_1 X0 X2 = X2) \Rightarrow (v3_pre_topc X2 X0)))))) \end{aligned} \quad (2)$$

Assume the following.

$$k2_topalg_2 = k3_topmetr \quad (3)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0) \wedge (v1_xxreal_0 X1)) \Rightarrow (k2_rcomp_1 X0 X1 = k4_xxreal_1 X0 X1) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (v3_rcomp_1 (k4_xxreal_1 X0 X1)) \quad (5)$$

Assume the following.

$$(v2_pre_topc k3_topmetr) \wedge (l1_pre_topc k3_topmetr) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xxreal_0 X0)\wedge(v1_xxreal_0 X1))\Rightarrow(m1_subset_1 (k2_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (7)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(v1_xxreal_0 X0) \quad (8)$$

Theorem 1

$$\begin{aligned} &\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow(\forall X2. \\ &\quad (m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 k2_topalg_2)))\Rightarrow((\\ &\quad X2 = k2_rcomp_1 X0 X1)\Rightarrow(k1_tops_1 k2_topalg_2 X2 = k2_rcomp_1 X0 \\ &\quad X1)))) \end{aligned}$$