

t40_rcomp_3 (TMT- BQP5AgwZJbXGC8GZnGeaX6usHAiFiN2W)

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Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $r1_xxreal_0 : \iota \Rightarrow \iota \Rightarrow o$ 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 $k4_topmetr : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v5_xxreal_2 : \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v2_membered : \iota \Rightarrow o$ be given. Let $r1_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3_xxreal_2 : \iota \Rightarrow o$ be given. Let $v4_xxreal_2 : \iota \Rightarrow o$ be given. Let $k1_rcomp_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_xxreal_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow ((r1_tarski X0 X1) \wedge (v3_xxreal_2 X1)) \Rightarrow (v3_xxreal_2 X0)) \quad (1)$$

Assume the following.

$$\forall X0.(v2_membered X0) \Rightarrow (\forall X1.(v2_membered X1) \Rightarrow ((r1_tarski X0 X1) \wedge (v4_xxreal_2 X1)) \Rightarrow (v4_xxreal_2 X0)) \quad (2)$$

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.

$$\forall X0.\forall X1.\forall X2.((r1_tarski X0 X1) \wedge (r1_tarski X1 X2)) \Rightarrow (r1_tarski X0 X2) \quad (4)$$

Assume the following.

$$\forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.(v1_xreal_0 X1) \Rightarrow ((r1_xxreal_0 X0 X1) \Rightarrow (u1_struct_0 (k4_topmetr X0 X1) = k1_rcomp_1 X0 X1))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0) \wedge (v1_xreal_0 X1)) \Rightarrow (k1_rcomp_1 X0 X1 = k1_xxreal_1 X0 X1) \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v5_xxreal_2 (k1_xxreal_1 X0 X1)) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(v3_membered (k1_xxreal_1 X0 X1)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1_xreal_0 X0)\wedge(v1_xreal_0 X1))\Rightarrow(m1_subset_1 (k1_rcomp_1 X0 X1) (k1_zfmisc_1 k1_numbers)) \quad (9)$$

Assume the following.

$$\forall X0.((v2_membered X0)\wedge((v3_xxreal_2 X0)\wedge(v4_xxreal_2 X0)))\Rightarrow((v2_membered X0)\wedge(v5_xxreal_2 X0)) \quad (10)$$

Assume the following.

$$\forall X0.((v2_membered X0)\wedge(v5_xxreal_2 X0))\Rightarrow((v2_membered X0)\wedge((v3_xxreal_2 X0)\wedge(v4_xxreal_2 X0))) \quad (11)$$

Assume the following.

$$\forall X0.(v3_membered X0)\Rightarrow(v2_membered X0) \quad (12)$$

Assume the following.

$$\forall X0.(v2_membered X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (k1_zfmisc_1 X0))\Rightarrow(v2_membered X1)) \quad (13)$$

Theorem 1

$$\forall X0.(v1_xreal_0 X0)\Rightarrow(\forall X1.(v1_xreal_0 X1)\Rightarrow((r1_xxreal_0 X0 X1)\Rightarrow(\forall X2.(m1_subset_1 X2 (k1_zfmisc_1 (u1_struct_0 (k4_topmetr X0 X1))))\Rightarrow((v5_xxreal_2 X2)\wedge(m1_subset_1 X2 (k1_zfmisc_1 k1_numbers)))))))$$