

t6_euclid_4 (TMborZ- Many5ySDX4sQvAqNQDaUyqv3uDfJq)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $v7_ordinal1 : \iota \Rightarrow o$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_xreal_0 : \iota \Rightarrow o$ be given. Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $k10_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1_finseq_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m2_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1_finseq_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k24_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_numbers : \iota$ be given. Let $k4_ordinal1 : \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Let $v1_xcmplx_0 : \iota \Rightarrow o$ be given. Let $v3_membered : \iota \Rightarrow o$ be given. Let $k1_zfmisc_1 : \iota \Rightarrow \iota$ be given. Let $k2_zfmisc_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k4_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\begin{aligned} \forall X0.(v1_xreal_0 X0) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 \\ X2) \wedge ((v1_funct_1 X2) \wedge ((v3_valued_0 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow \\ (k10_rvsum_1 (k4_rvsum_1 X1 X2) X0 = k4_rvsum_1 (k10_rvsum_1 X1 \\ X0) (k10_rvsum_1 X2 X0)))) \end{aligned} \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0) \Rightarrow (\forall X2.(m2_finseq_2 \\ X2 X0 X1) \Leftrightarrow (m1_subset_1 X2 X1)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0) \Leftrightarrow (m1_finseq_1 X1 X0) \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.((v7_ordinal1 X0) \wedge ((m1_subset_1 \\ X1 (k1_euclid X0)) \wedge (v1_xreal_0 X2))) \Rightarrow (k9_euclid X0 X1 X2 = k24_valued_1 \\ X1 X2) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1\ X0)\wedge((m1_subset_1\ X1\ (k1_euclid\ X0))\wedge(m1_subset_1\ X2\ (k1_euclid\ X0))))\Rightarrow(k7_euclid\ X0\ X1\ X2 = k1_valued_1\ X1\ X2) \quad (5)$$

Assume the following.

$$k5_numbers = k4_ordinal1 \quad (6)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v3_valued_0\ X0)\wedge(v1_finseq_1\ X0))))\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge((v3_valued_0\ X1)\wedge(v1_finseq_1\ X1)))))\Rightarrow(k4_rvsum_1\ X0\ X1 = k1_valued_1\ X0\ X1) \quad (7)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v3_valued_0\ X0)\wedge(v1_finseq_1\ X0))))\wedge(v1_xreal_0\ X1))\Rightarrow(k10_rvsum_1\ X0\ X1 = k24_valued_1\ X0\ X1) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge((v1_valued_0\ X0)\wedge(v1_finseq_1\ X0))))\wedge(v1_xcmplx_0\ X1))\Rightarrow((v1_relat_1\ (k24_valued_1\ X0\ X1))\wedge((v1_funct_1\ (k24_valued_1\ X0\ X1))\wedge(v1_finseq_1\ (k24_valued_1\ X0\ X1)))) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0\ X0)))\wedge(v1_xreal_0\ X1))\Rightarrow((v1_relat_1\ (k24_valued_1\ X0\ X1))\wedge((v1_funct_1\ (k24_valued_1\ X0\ X1))\wedge(v3_valued_0\ (k24_valued_1\ X0\ X1)))) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1\ X0)\wedge((v1_funct_1\ X0)\wedge(v3_valued_0\ X0)))\wedge((v1_relat_1\ X1)\wedge((v1_funct_1\ X1)\wedge(v3_valued_0\ X1))))\Rightarrow((v1_relat_1\ (k1_valued_1\ X0\ X1))\wedge((v1_funct_1\ (k1_valued_1\ X0\ X1))\wedge(v3_valued_0\ (k1_valued_1\ X0\ X1)))) \quad (11)$$

Assume the following.

$$v3_membered\ k1_numbers \quad (12)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v1_valued_0 \\ X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v1_valued_0 X1))))\Rightarrow \\ ((v1_relat_1 (k1_valued_1 X0 X1))\wedge((v1_funct_1 (k1_valued_1 \\ X0 X1))\wedge(v1_valued_0 (k1_valued_1 X0 X1)))) \end{aligned} \quad (13)$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(\\ v1_valued_0 X0)\wedge(v1_finseq_1 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 \\ X1)\wedge((v1_valued_0 X1)\wedge(v1_finseq_1 X1))))\Rightarrow((v1_relat_1 (k1_valued_1 \\ X0 X1))\wedge((v1_funct_1 (k1_valued_1 X0 X1))\wedge(v1_finseq_1 (k1_valued_1 \\ X0 X1)))) \end{aligned} \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_2 X1 X0)\Rightarrow(\forall X2.(m2_finseq_2 \\ X2 X0 X1)\Rightarrow(m2_finseq_1 X2 X0)) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(m2_finseq_1 X1 X0)\Rightarrow((v1_funct_1 X1)\wedge(\\ (v1_finseq_1 X1)\wedge(m1_subset_1 X1 (k1_zfmisc_1 (k2_zfmisc_1 k5_numbers \\ X0)))))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.(m1_finseq_1 X1 X0)\Rightarrow((v1_relat_1 X1)\wedge(\\ (v1_funct_1 X1)\wedge(v1_finseq_1 X1))) \quad (17)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1 X0)\wedge((m1_subset_1 \\ X1 (k1_euclid X0))\wedge(v1_xreal_0 X2)))\Rightarrow(m2_finseq_2 (k9_euclid \\ X0 X1 X2) k1_numbers (k1_euclid X0)) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v7_ordinal1 X0)\wedge((m1_subset_1 \\ X1 (k1_euclid X0))\wedge(m1_subset_1 X2 (k1_euclid X0))))\Rightarrow(m2_finseq_2 \\ (k7_euclid X0 X1 X2) k1_numbers (k1_euclid X0)) \quad (19)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(m1_finseq_2 (k1_euclid X0) k1_numbers) \quad (20)$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(k1_euclid X0 = k4_finseq_2 X0 k1_numbers) \quad (21)$$

Assume the following.

$$\forall X0.(v3_membered\ X0)\Rightarrow(v1_membered\ X0) \quad (22)$$

Assume the following.

$$\forall X0.(v1_xreal_0\ X0)\Rightarrow(v1_xcmplx_0\ X0) \quad (23)$$

Assume the following.

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(v1_xreal_0\ X0) \quad (24)$$

Assume the following.

$$\forall X0.\forall X1.(v3_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v3_valued_0\ X2)) \quad (25)$$

Assume the following.

$$\forall X0.\forall X1.(v1_membered\ X1)\Rightarrow(\forall X2.(m1_subset_1\ X2\ (k1_zfmisc_1\ (k2_zfmisc_1\ X0\ X1)))\Rightarrow(v1_valued_0\ X2)) \quad (26)$$

Theorem 1

$$\forall X0.(m1_subset_1\ X0\ k1_numbers)\Rightarrow(\forall X1.(v7_ordinal1\ X1)\Rightarrow(\forall X2.(m2_finseq_2\ X2\ k1_numbers\ (k1_euclid\ X1))\Rightarrow(\forall X3.(m2_finseq_2\ X3\ k1_numbers\ (k1_euclid\ X1))\Rightarrow(k9_euclid\ X1\ (k7_euclid\ X1\ X2\ X3)\ X0 = k7_euclid\ X1\ (k9_euclid\ X1\ X2\ X0)\ (k9_euclid\ X1\ X3\ X0))))))$$