

t12_euclid_2 (TMXsihepCsDCSMvcue- JRvbkL56WwGTGxFTk)

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Let $v1_relat_1 : \iota \Rightarrow o$ be given. Let $v1_funct_1 : \iota \Rightarrow o$ be given. Let $v1_finseq_1 : \iota \Rightarrow o$ be given. Let $v3_valued_0 : \iota \Rightarrow o$ be given. Let $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k5_square_1 : \iota \Rightarrow \iota$ be given. Let $k12_euclid : \iota \Rightarrow \iota$ be given. Let $k8_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k10_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_2 : \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45_valued_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1_valued_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v1_finseq_1 X0) \wedge (v3_valued_0 X0)))) \Rightarrow (k5_square_1 (k12_euclid X0) = k23_rvsum_1 X0 X0) \tag{1}$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow ((k3_finseq_1 X0 = k3_finseq_1 X1) \Rightarrow (k23_rvsum_1 (k8_rvsum_1 X0 X1) (k8_rvsum_1 X0 X1) = k9_binop_2 (k10_binop_2 (k23_rvsum_1 X0 X0) (k11_binop_2 np_2 (k23_rvsum_1 X0 X1))) (k23_rvsum_1 X1 X1)))) \tag{2}$$

Assume the following.

$$\forall X0. \forall X1.(((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 X0) \wedge (v1_finseq_1 X0)))) \wedge ((v1_relat_1 X1) \wedge ((v1_funct_1 X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))))) \Rightarrow (k8_rvsum_1 X0 X1 = k45_valued_1 X0 X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_valued_0 X0)\wedge(v1_finseq_1 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v1_valued_0 X1)\wedge(v1_finseq_1 X1)))))\Rightarrow((v1_relat_1 (k45_valued_1 X0 X1))\wedge((v1_funct_1 (k45_valued_1 X0 X1))\wedge(v1_finseq_1 (k45_valued_1 X0 X1)))) \quad (4)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge(v3_valued_0 X0)))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge(v3_valued_0 X1))))\Rightarrow((v1_relat_1 (k45_valued_1 X0 X1))\wedge((v1_funct_1 (k45_valued_1 X0 X1))\wedge(v3_valued_0 (k45_valued_1 X0 X1)))) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.(((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v3_valued_0 X0)\wedge(v1_finseq_1 X0))))\wedge((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v3_valued_0 X1)\wedge(v1_finseq_1 X1)))))\Rightarrow(k23_rvsum_1 X0 X1 = k23_rvsum_1 X1 X0) \quad (6)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0)\wedge(v3_valued_0 X0))\Rightarrow((v1_relat_1 X0)\wedge(v1_valued_0 X0)) \quad (7)$$

Theorem 1

$$\forall X0.((v1_relat_1 X0)\wedge((v1_funct_1 X0)\wedge((v1_finseq_1 X0)\wedge(v3_valued_0 X0))))\Rightarrow(\forall X1.((v1_relat_1 X1)\wedge((v1_funct_1 X1)\wedge((v1_finseq_1 X1)\wedge(v3_valued_0 X1)))))\Rightarrow((k3_finseq_1 X0 = k3_finseq_1 X1)\Rightarrow(k5_square_1 (k12_euclid (k8_rvsum_1 X0 X1)) = k9_binop_2 (k10_binop_2 (k5_square_1 (k12_euclid X0)) (k11_binop_2 np_2 (k23_rvsum_1 X1 X0))) (k5_square_1 (k12_euclid X1))))$$