

t29_euclid_2 (TMLr-
wVRo1KkyTfbNjWScVpKtm1T9hbAkgV6)

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Let $v7_ordinal1 : \iota \Rightarrow o$ 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 $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5_algstr_0 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ 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 $k1_euclid : \iota \Rightarrow \iota$ 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 $k3_finseq_1 : \iota \Rightarrow \iota$ be given. Let $k8_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_card_1 : \iota \Rightarrow \iota$ be given. Let $v4_funct_1 : \iota \Rightarrow o$ be given. Let $v3_card_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(v7_ordinal1 X0) \Rightarrow (u1_struct_0 (k15_euclid X0) = k1_euclid X0) \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge ((v3_valued_0 \\ & X0) \wedge (v1_finseq_1 X0)))) \Rightarrow (\forall X1.((v1_relat_1 X1) \wedge ((v1_funct_1 \\ & X1) \wedge ((v3_valued_0 X1) \wedge (v1_finseq_1 X1)))) \Rightarrow (\forall X2.((v1_relat_1 \\ & X2) \wedge ((v1_funct_1 X2) \wedge ((v3_valued_0 X2) \wedge (v1_finseq_1 X2)))) \Rightarrow \\ & (\forall X3.((v1_relat_1 X3) \wedge ((v1_funct_1 X3) \wedge ((v3_valued_0 \\ & X3) \wedge (v1_finseq_1 X3)))) \Rightarrow (((k3_finseq_1 X0 = k3_finseq_1 X1) \wedge \\ & ((k3_finseq_1 X1 = k3_finseq_1 X2) \wedge (k3_finseq_1 X2 = k3_finseq_1 \\ & X3))) \Rightarrow (k23_rvsum_1 (k8_rvsum_1 X0 X1) (k8_rvsum_1 X2 X3) = k9_binop_2 \\ & (k10_binop_2 (k10_binop_2 (k23_rvsum_1 X0 X2) (k23_rvsum_1 X0 \\ & X3)) (k23_rvsum_1 X1 X2)) (k23_rvsum_1 X1 X3)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0.((v1_relat_1 X0) \wedge ((v1_funct_1 X0) \wedge (v1_finseq_1 X0))) \Rightarrow (k3_finseq_1 X0 = k1_card_1 X0) \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v7_ordinal1 \\ & X0)\wedge((m1_subset_1 X1 (u1_struct_0 (k15_euclid X0)))\wedge((m1_subset_1 \\ & X2 (u1_struct_0 (k15_euclid X0)))\wedge((v1_relat_1 X3)\wedge((v1_funct_1 \\ & X3)\wedge((v1_finseq_1 X3)\wedge(v3_valued_0 X3))))\wedge((v1_relat_1 X4)\wedge \\ & ((v1_funct_1 X4)\wedge((v1_finseq_1 X4)\wedge(v3_valued_0 X4))))))\Rightarrow \\ & (((X1 = X3)\wedge(X2 = X4))\Rightarrow(k5_algstr_0 (k15_euclid X0) X1 X2 = k8_rvsum_1 \\ & X3 X4)) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(v4_funct_1 (u1_struct_0 (k15_euclid X0))) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(v3_card_1 X1 X0)\Leftrightarrow(k1_card_1 X1 = X0) \tag{6}$$

Assume the following.

$$\forall X0.(v4_funct_1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 X0)\Rightarrow(\\ (v1_relat_1 X1)\wedge(v1_funct_1 X1))) \tag{7}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0)))\Rightarrow(v3_card_1 X1 X0)) \tag{8}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0)))\Rightarrow(v3_valued_0 X1)) \tag{9}$$

Assume the following.

$$\forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ (k15_euclid X0)))\Rightarrow(v1_finseq_1 X1)) \tag{10}$$

Theorem 1

$$\begin{aligned} & \forall X0.(v7_ordinal1 X0)\Rightarrow(\forall X1.(m1_subset_1 X1 (u1_struct_0 \\ & (k15_euclid X0)))\Rightarrow(\forall X2.(m1_subset_1 X2 (u1_struct_0 (\\ & k15_euclid X0)))\Rightarrow(\forall X3.(m1_subset_1 X3 (u1_struct_0 (k15_euclid \\ & X0)))\Rightarrow(\forall X4.(m1_subset_1 X4 (u1_struct_0 (k15_euclid X0)))\Rightarrow \\ & (k23_rvsum_1 (k5_algstr_0 (k15_euclid X0) X1 X2) (k5_algstr_0 \\ & (k15_euclid X0) X3 X4) = k9_binop_2 (k10_binop_2 (k10_binop_2 (\\ & k23_rvsum_1 X1 X3) (k23_rvsum_1 X1 X4)) (k23_rvsum_1 X2 X3)) (k23_rvsum_1 \\ & X2 X4)))))) \end{aligned}$$