

t70_euclid_8

(TMZEgH3nKVNYEXnXhcUXz6w3PJ9Lkh8HCcT)

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Let $m1_subset_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_numbers : \iota$ be given. Let $m2_finseq_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1_euclid : \iota \Rightarrow \iota$ be given. Let $np_3 : \iota$ be given. Let $k23_rvsum_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k11_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9_binop_2 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1_seq_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np_1 : \iota$ be given. Let $np_2 : \iota$ be given. Assume the following.

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X2.(m2_finseq_2 X2 \\ & k1_numbers (k1_euclid np_3)) \Rightarrow (k23_rvsum_1 (k9_euclid np_3 \\ & X1 X0) X2 = k11_binop_2 X0 (k23_rvsum_1 X1 X2)))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} & \forall X0.(m2_finseq_2 X0 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X1. \\ & (m2_finseq_2 X1 k1_numbers (k1_euclid np_3)) \Rightarrow (k23_rvsum_1 X0 \\ & X1 = k9_binop_2 (k9_binop_2 (k11_binop_2 (k1_seq_1 X0 np_1) (k1_seq_1 \\ & X1 np_1)) (k11_binop_2 (k1_seq_1 X0 np_2) (k1_seq_1 X1 np_2))) \\ & (k11_binop_2 (k1_seq_1 X0 np_3) (k1_seq_1 X1 np_3)))) \end{aligned} \quad (2)$$

Theorem 1

$$\begin{aligned} & \forall X0.(m1_subset_1 X0 k1_numbers) \Rightarrow (\forall X1.(m2_finseq_2 \\ & X1 k1_numbers (k1_euclid np_3)) \Rightarrow (\forall X2.(m2_finseq_2 X2 \\ & k1_numbers (k1_euclid np_3)) \Rightarrow (k23_rvsum_1 (k9_euclid np_3 \\ & X1 X0) X2 = k11_binop_2 X0 (k9_binop_2 (k9_binop_2 (k11_binop_2 \\ & (k1_seq_1 X1 np_1) (k1_seq_1 X2 np_1)) (k11_binop_2 (k1_seq_1 \\ & X1 np_2) (k1_seq_1 X2 np_2))) (k11_binop_2 (k1_seq_1 X1 np_3) \\ & (k1_seq_1 X2 np_3)))))) \end{aligned}$$