t10_euclid_2 (TMVU5zpqS2Uxns48CioTFv7DjN7XW1X2iDv)

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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 $k23\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_euclid : \iota \Rightarrow \iota$ be given. Let $k3\_finseq\_1 : \iota \Rightarrow \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $m2\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $k4\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_rvsum\_1 : \iota \Rightarrow \iota$ be given. Let $k8\_rvsum\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k45\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_valued\_0 : \iota \Rightarrow o$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v1\_finseq\_1\ X0) \wedge (v3\_valued\_0\ X0)))) \Rightarrow (k23\_rvsum\_1\ X0\ (k5\_euclid\ (k3\_finseq\_1\ X0)) = k6\_numbers) \tag{1}$$

Assume the following.

$$\forall X0.(m2\_finseq\_1\ X0\ k1\_numbers) \Rightarrow ((k4\_rvsum\_1\ X0\ (k6\_rvsum\_1\ X0) = k5\_euclid\ (k3\_finseq\_1\ X0)) \wedge (k8\_rvsum\_1\ X0\ X0 = k5\_euclid\ (k3\_finseq\_1\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v3\_valued\_0\ X0) \wedge (v1\_finseq\_1\ X0)))) \Rightarrow (\forall X1.((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v3\_valued\_0\ X1) \wedge (v1\_finseq\_1\ X1)))) \Rightarrow (k8\_rvsum\_1\ X0\ X1 = k4\_rvsum\_1\ X0\ (k6\_rvsum\_1\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0) \wedge ((v1\_funct\_1\ X0) \wedge ((v3\_valued\_0\ X0) \wedge (v1\_finseq\_1\ X0)))) \wedge ((v1\_relat\_1\ X1) \wedge ((v1\_funct\_1\ X1) \wedge ((v3\_valued\_0\ X1) \wedge (v1\_finseq\_1\ X1))))) \Rightarrow (k8\_rvsum\_1\ X0\ X1 = k45\_valued\_1\ X0\ X1) \tag{4}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{5}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge(v1\_finseq\_1\ X0))))\Rightarrow(m2\_finseq\_1\ X0\ k1\_numbers) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v1\_valued\_0\ X0)\wedge(v1\_finseq\_1\ X0))))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge((v1\_valued\_0\ X1)\wedge(v1\_finseq\_1\ X1)))))\Rightarrow((v1\_relat\_1\ (k45\_valued\_1\ X0\ X1))\wedge((v1\_funct\_1\ (k45\_valued\_1\ X0\ X1))\wedge(v1\_finseq\_1\ (k45\_valued\_1\ X0\ X1)))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v3\_valued\_0\ X0)))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_valued\_0\ X1))))\Rightarrow((v1\_relat\_1\ (k45\_valued\_1\ X0\ X1))\wedge((v1\_funct\_1\ (k45\_valued\_1\ X0\ X1))\wedge(v3\_valued\_0\ (k45\_valued\_1\ X0\ X1)))) \tag{8}$$

Assume the following.

$$k1\_xboole\_0 = the\ (\lambda X0 : \iota.v1\_xboole\_0\ X0) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge(v1\_finseq\_1\ X0))))\wedge((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge((v3\_valued\_0\ X1)\wedge(v1\_finseq\_1\ X1)))))\Rightarrow(k23\_rvsum\_1\ X0\ X1 = k23\_rvsum\_1\ X1\ X0) \tag{10}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ X0)\wedge(v1\_valued\_0\ X0)) \tag{11}$$

Theorem 1

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v1\_finseq\_1\ X0)\wedge(v3\_valued\_0\ X0))))\Rightarrow(k23\_rvsum\_1\ (k5\_euclid\ (k3\_finseq\_1\ X0))\ X0 = k6\_numbers)$$