# t106_euclid_8 (TMGkvKtHyWpfkM9VzjebTcZCt4LBjTT1jDd)

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Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_numbers : \iota$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k8\_euclid\_8 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k9\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k5\_numbers : \iota$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $k7\_euclid : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k6\_euclid : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_real\_1 : \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow (((r1\_fdiff\_1\ X1\ X4) \wedge ((r1\_fdiff\_1\ X2\ X4) \wedge (r1\_fdiff\_1\ X3\ X4))) \Rightarrow (k8\_euclid\_8\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ X1\ X0)\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ X2\ X0)\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ X3\ X0)\ X4 = k9\_euclid\ np\_\_3\ (k8\_euclid\_8\ X1\ X2\ X3\ X4)\ X0)))))) \tag{1}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X6.(m1\_subset\_1\ X6\ k1\_numbers)\Rightarrow(((r1\_fdiff\_1\ X0\ X6)\wedge((r1\_fdiff\_1\ X1\ X6)\wedge((r1\_fdiff\_1\ X2\ X6)\wedge((r1\_fdiff\_1\ X3\ X6)\wedge((r1\_fdiff\_1\ X4\ X6)\wedge(r1\_fdiff\_1\ X5\ X6))))))\Rightarrow(k8\_euclid\_8\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X0\ X3)\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X4)\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X2\ X5)\ X6 = k8\_euclid\ np\_\_3\ (k8\_euclid\_8\ X0\ X1\ X2\ X6)\ (k8\_euclid\_8\ X3\ X4\ X5\ X6)))))))))) \tag{2}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(((r1\_fdiff\_1\ X1\ X0)\wedge(r1\_fdiff\_1\ X2\ X0))\Rightarrow((r1\_fdiff\_1\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2)\ X0)\wedge(k1\_fdiff\_1\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2)\ X0 = k9\_real\_1\ (k1\_fdiff\_1\ X1\ X0)\ (k1\_fdiff\_1\ X2\ X0)))))) \tag{3}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k5\_numbers)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ k1\_numbers\ (k1\_euclid\ X1))\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ X1))\Rightarrow((k9\_euclid\ X1\ (k8\_euclid\ X1\ X2\ X3)\ X0 = k7\_euclid\ X1\ (k9\_euclid\ X1\ X2\ X0)\ (k6\_euclid\ X1\ (k9\_euclid\ X1\ X3\ X0)))\wedge((k9\_euclid\ X1\ (k8\_euclid\ X1\ X2\ X3)\ X0 = k7\_euclid\ X1\ (k9\_euclid\ X1\ X2\ X0)\ (k9\_euclid\ X1\ X3\ (k1\_real\_1\ X0)))\wedge(k9\_euclid\ X1\ (k8\_euclid\ X1\ X2\ X3)\ X0 = k8\_euclid\ X1\ (k9\_euclid\ X1\ X2\ X0)\ (k9\_euclid\ X1\ X3\ X0))))))) \tag{4}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3)\wedge(m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_3\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{5}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.(((v1\_funct\_1\ X0)\wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\wedge (((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\wedge(m1\_subset\_1\ X3\ k1\_numbers))))\Rightarrow(m2\_finseq\_2\ (k8\_euclid\_8\ X0\ X1\ X2\ X3)\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.\forall X4.((v3\_membered\ X1)\wedge((v3\_membered\ X2)\wedge(((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X2)))))))\Rightarrow((v1\_funct\_1\ (k47\_valued\_1\ X0\ X1\ X2\ X3\ X4))\wedge(m1\_subset\_1\ (k47\_valued\_1\ X0\ X1\ X2\ X3\ X4)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \tag{8}$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X3.((v1\_funct\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X5.((v1\_funct\_1\ X5)\wedge(m1\_subset\_1\ X5\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X6.((v1\_funct\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X7.(m1\_subset\_1\ X7\ k1\_numbers)\Rightarrow(((r1\_fdiff\_1\ X1\ X7)\wedge((r1\_fdiff\_1\ X2\ X7)\wedge((r1\_fdiff\_1\ X3\ X7)\wedge((r1\_fdiff\_1\ X4\ X7)\wedge((r1\_fdiff\_1\ X5\ X7)\wedge(r1\_fdiff\_1\ X6\ X7))))))\Rightarrow(k8\_euclid\_8\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X4)\ X0)\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X2\ X5)\ X0)\ (k26\_valued\_1\ k1\_numbers\ k1\_numbers\ (k47\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X6)\ X0)\ X7 = k8\_euclid\ np\_\_3\ (k9\_euclid\ np\_\_3\ (k8\_euclid\_8\ X1\ X2\ X3\ X7)\ X0)\ (k9\_euclid\ np\_\_3\ (k8\_euclid\_8\ X4\ X5\ X6\ X7)\ X0)))))))))$$