# t59_pdiff_5 (TM-bQqne1f9MB3qv4iAd1BoQmQJdXhdL5CEx)

October 27, 2020

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 $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_pdiff\_5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $np\_\_2 : \iota$ be given. Let $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $k11\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_pdiff\_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.((\neg v1\_xboole\_0\ X0) \wedge (m2\_subset\_1\ X0\ k1\_numbers\ k5\_numbers)) \Rightarrow (\forall X1.(m2\_subset\_1\ X1\ k1\_numbers\ k5\_numbers) \Rightarrow (\forall X2.(m1\_subset\_1\ X2\ k1\_numbers) \Rightarrow (\forall X3.((v1\_funct\_1\ X3) \wedge (m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers)))) \Rightarrow (\forall X4.(m2\_finseq\_2\ X4\ k1\_numbers\ (k1\_euclid\ X0)) \Rightarrow ((r3\_pdiff\_1\ X0\ X1\ X3\ X4) \Rightarrow ((r3\_pdiff\_1\ X0\ X1\ (k26\_valued\_1\ (k1\_euclid\ X0)\ k1\_numbers\ X3\ X2)\ X4) \wedge (k11\_pdiff\_1\ X0\ X1\ (k26\_valued\_1\ (k1\_euclid\ X0)\ k1\_numbers\ X3\ X2)\ X4 = k8\_real\_1\ X2\ (k11\_pdiff\_1\ X0\ X1\ X3\ X4)))))))) \tag{1}$$

Assume the following.

$$\forall X0.(m2\_finseq\_2\ X0\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers)))) \Rightarrow ((r2\_pdiff\_5\ X1\ X0) \Rightarrow (k2\_pdiff\_5\ X1\ X0 = k11\_pdiff\_1\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X1)\ X0))) \tag{2}$$

Assume the following.

$$\forall X0.(m2\_finseq\_2\ X0\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers)))) \Rightarrow ((r2\_pdiff\_5\ X1\ X0) \Leftrightarrow (r3\_pdiff\_1\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X1)\ X0))) \tag{3}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3)\wedge(m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_3\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{4}$$

Assume the following.

$$\neg v1\_xboole\_0\ np\_\_3 \tag{5}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{6}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ k5\_numbers))\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X1)\ k1\_numbers))))))\Rightarrow((v1\_funct\_1\ (k1\_pdiff\_3\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k1\_pdiff\_3\ X0\ X1\ X2)\ (k1\_euclid\ X1)\ k1\_numbers)\wedge(m1\_subset\_1\ (k1\_pdiff\_3\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X1)\ k1\_numbers))))) \tag{8}$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow((r2\_pdiff\_5\ X2\ X1)\Rightarrow((r3\_pdiff\_1\ np\_\_3\ np\_\_2\ (k26\_valued\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X2)\ X0)\ X1)\wedge(k11\_pdiff\_1\ np\_\_3\ np\_\_2\ (k26\_valued\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X2)\ X0)\ X1 = k8\_real\_1\ X0\ (k2\_pdiff\_5\ X2\ X1))))))$$