t38_pdiff_5 (TMX55ZEZ8rrxpaFcU9UTQWXNcYCuhPkWTiV)

October 27, 2020

Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_euclid : \iota \Rightarrow \iota$ be given. Let $np\_\_3 : \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $m2\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_2 : \iota$ be given. Let $r2\_pdiff\_5 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_pdiff\_3 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $np\_\_1 : \iota$ be given. Let $v2\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_numbers : \iota$ be given. Let $v3\_funct\_1 : \iota \Rightarrow o$ be given. Let $k2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_tarski : \iota \Rightarrow \iota$ be given. Let $k3\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_comseq\_2 : \iota \Rightarrow o$ be given. Let $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k37\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k47\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k8\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_pdiff\_5 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_seq\_2 : \iota \Rightarrow \iota$ be given. Let $k11\_finseq\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r3\_pdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_rvsum\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ 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 $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Let $m1\_finseq\_2 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k4\_ordinal1 : \iota$ be given. Let $v6\_membered : \iota \Rightarrow o$ be given. Let $v7\_ordinal1 : \iota \Rightarrow o$ be given. Let $v3\_fdiff\_1 : \iota \Rightarrow o$ be given. Let $v2\_fdiff\_1 : \iota \Rightarrow o$ be given. Let $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k7\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers)))) \Rightarrow (\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3)) \Rightarrow ((\exists X2.(m1\_subset\_1\ X2\ k1\_numbers) \wedge (\exists X3.(m1\_subset\_1\ X3\ k1\_numbers) \wedge (\exists X4.(m1\_subset\_1\ X4\ k1\_numbers) \wedge ((X1 = k11\_finseq\_1\ X2\ X3\ X4) \wedge (r1\_fdiff\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ X0\ X1)\ X3))))) \Leftrightarrow (r3\_pdiff\_1\ np\_\_3\ np\_\_2\ X0\ X1))) \tag{1}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.((v2\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge((v1\_funct\_2\ X1\ k5\_numbers\ k1\_numbers)\wedge((v1\_fdiff\_1\ X1\ k6\_numbers)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers)))))))\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge((v3\_funct\_1\ X2)\wedge((v1\_funct\_2\ X2\ k5\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))\Rightarrow((k2\_relset\_1\ k1\_numbers\ X2 = k1\_tarski\ X0)\Rightarrow((v2\_comseq\_2\ X2)\wedge((k2\_seq\_2\ X2 = X0)\wedge((v2\_comseq\_2\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2))\wedge(k2\_seq\_2\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X2) = X0)))))))) \tag{2}$$

Assume the following.

$$(k1\_relset\_1\ (k1\_euclid\ np\_\_3)\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3) = k1\_euclid\ np\_\_3)\wedge((k1\_rvsum\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3) = k1\_numbers)\wedge(\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3)\ (k11\_finseq\_1\ X0\ X1\ X2) = X1))))) \tag{3}$$

Assume the following.

$$\forall X0.(m2\_finseq\_2\ X0\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow((r2\_pdiff\_5\ X1\ X0)\Leftrightarrow(r3\_pdiff\_1\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X1)\ X0))) \tag{4}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow(\forall X2.(m1\_rcomp\_1\ X2\ X1)\Rightarrow(((r1\_fdiff\_1\ X0\ X1)\wedge(r1\_tarski\ X2\ (k1\_relset\_1\ k1\_numbers\ X0)))\Rightarrow(\forall X3.((v2\_relat\_1\ X3)\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ k5\_numbers\ k1\_numbers)\wedge((v1\_fdiff\_1\ X3\ k6\_numbers)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v3\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ k5\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))\Rightarrow(((k2\_relset\_1\ k1\_numbers\ X4 = k1\_tarski\ X1)\wedge(r1\_tarski\ (k2\_relset\_1\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4))\ X2))\Rightarrow((v2\_comseq\_2\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k37\_valued\_1\ k5\_numbers\ k1\_numbers\ X3)\ (k47\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4)\ X0)\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X4\ X0))))\wedge(k1\_fdiff\_1\ X0\ X1 = k2\_seq\_2\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k37\_valued\_1\ k5\_numbers\ k1\_numbers\ X3)\ (k47\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4)\ X0)\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X4\ X0)))))))))))) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\forall X2.(m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\forall X3.(m2\_finseq\_2\ X3\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow(((X3 = k11\_finseq\_1\ X0\ X1\ X2)\wedge(r2\_pdiff\_5\ X4\ X3))\Rightarrow(k2\_pdiff\_5\ X4\ X3 = k1\_fdiff\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X4)\ X3)\ X1)))))) \tag{6}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_3)\wedge(m2\_subset\_1\ np\_\_3\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_3\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_3\ k1\_numbers)) \tag{7}$$

Assume the following.

$$\neg v1\_xboole\_0\ np\_\_3 \tag{8}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_2)\wedge(m2\_subset\_1\ np\_\_2\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_2\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_2\ k1\_numbers)) \tag{9}$$

Assume the following.

$$((v2\_xxreal\_0\ np\_\_1)\wedge(m2\_subset\_1\ np\_\_1\ k1\_numbers\ k5\_numbers))\wedge((m1\_subset\_1\ np\_\_1\ k5\_numbers)\wedge(m1\_subset\_1\ np\_\_1\ k1\_numbers)) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_finseq\_2\ X1\ X0)\Rightarrow(\forall X2.(m2\_finseq\_2\ X2\ X0\ X1)\Leftrightarrow(m1\_subset\_1\ X2\ X1)) \tag{11}$$

Assume the following.

$$k5\_numbers = k4\_ordinal1 \tag{12}$$

Assume the following.

$$v6\_membered\ k4\_ordinal1 \tag{13}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((m1\_subset\_1\ X0\ k5\_numbers)\wedge(((\neg v1\_xboole\_0\ X1)\wedge(m1\_subset\_1\ X1\ k5\_numbers))\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X1)\ k1\_numbers))))))\Rightarrow((v1\_funct\_1\ (k1\_pdiff\_3\ X0\ X1\ X2))\wedge((v1\_funct\_2\ (k1\_pdiff\_3\ X0\ X1\ X2)\ (k1\_euclid\ X1)\ k1\_numbers)\wedge(m1\_subset\_1\ (k1\_pdiff\_3\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X1)\ k1\_numbers))))) \tag{14}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1\ X0\ k5\_numbers)\wedge((m1\_subset\_1\ X1\ k5\_numbers)\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ X0)\ k1\_numbers))))\wedge(m1\_subset\_1\ X3\ (k1\_euclid\ X0)))))\Rightarrow((v1\_funct\_1\ (k1\_pdiff\_2\ X0\ X1\ X2\ X3))\wedge(m1\_subset\_1\ (k1\_pdiff\_2\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \tag{15}$$

Assume the following.

$$\forall X0.(v7\_ordinal1\ X0)\Rightarrow(m1\_finseq\_2\ (k1\_euclid\ X0)\ k1\_numbers) \tag{16}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow((r2\_pdiff\_5\ X0\ X1)\Leftrightarrow(\exists X2.(m1\_subset\_1\ X2\ k1\_numbers)\wedge(\exists X3.(m1\_subset\_1\ X3\ k1\_numbers)\wedge(\exists X4.(m1\_subset\_1\ X4\ k1\_numbers)\wedge((X1 = k11\_finseq\_1\ X2\ X3\ X4)\wedge(\exists X5.(m1\_rcomp\_1\ X5\ X3)\wedge((r1\_tarski\ X5\ (k1\_relset\_1\ k1\_numbers\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1)))\wedge(\exists X6.((v1\_funct\_1\ X6)\wedge((v3\_fdiff\_1\ X6)\wedge(m1\_subset\_1\ X6\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))\wedge(\exists X7.((v1\_funct\_1\ X7)\wedge((v2\_fdiff\_1\ X7)\wedge(m1\_subset\_1\ X7\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))\wedge(\forall X8.(m1\_subset\_1\ X8\ k1\_numbers)\Rightarrow((X8\in X5)\Rightarrow(k9\_real\_1\ (k1\_seq\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1)\ X8)\ (k1\_seq\_1\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1)\ X3) = k7\_real\_1\ (k1\_seq\_1\ X6\ (k9\_real\_1\ X8\ X3))\ (k1\_seq\_1\ X7\ (k9\_real\_1\ X8\ X3))))))))))))))) \tag{17}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{18}$$

Assume the following.

$$\forall X0.(v6\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v7\_ordinal1\ X1)) \tag{19}$$

Theorem 1

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ (k1\_euclid\ np\_\_3)\ k1\_numbers))))\Rightarrow(\forall X1.(m2\_finseq\_2\ X1\ k1\_numbers\ (k1\_euclid\ np\_\_3))\Rightarrow(\forall X2.(m1\_rcomp\_1\ X2\ (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3)\ X1))\Rightarrow(((r2\_pdiff\_5\ X0\ X1)\wedge(r1\_tarski\ X2\ (k1\_relset\_1\ k1\_numbers\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1))))\Rightarrow(\forall X3.((v2\_relat\_1\ X3)\wedge((v1\_funct\_1\ X3)\wedge((v1\_funct\_2\ X3\ k5\_numbers\ k1\_numbers)\wedge((v1\_fdiff\_1\ X3\ k6\_numbers)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))))\Rightarrow(\forall X4.((v1\_funct\_1\ X4)\wedge((v3\_funct\_1\ X4)\wedge((v1\_funct\_2\ X4\ k5\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k5\_numbers\ k1\_numbers))))))\Rightarrow(((k2\_relset\_1\ k1\_numbers\ X4 = k1\_tarski\ (k1\_seq\_1\ (k1\_pdiff\_1\ np\_\_2\ np\_\_3)\ X1))\wedge(r1\_tarski\ (k2\_relset\_1\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4))\ X2))\Rightarrow((v2\_comseq\_2\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k37\_valued\_1\ k5\_numbers\ k1\_numbers\ X3)\ (k47\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4)\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1))\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X4\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1)))))\wedge(k2\_pdiff\_5\ X0\ X1 = k2\_seq\_2\ (k20\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k37\_valued\_1\ k5\_numbers\ k1\_numbers\ X3)\ (k47\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ (k3\_valued\_1\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X3\ X4)\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1))\ (k8\_funct\_2\ k5\_numbers\ k1\_numbers\ k1\_numbers\ X4\ (k1\_pdiff\_2\ np\_\_3\ np\_\_2\ (k1\_pdiff\_3\ np\_\_1\ np\_\_3\ X0)\ X1))))))))))))$$