# t10_fdiff_2 (TMbnr3C41YMeTN53bmkCpyTDKaewcc24eLv)

October 27, 2020

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 $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $m1\_rcomp\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $r1\_fcont\_1 : \iota \Rightarrow \iota \Rightarrow o$ 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.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\neg(r1\_fcont\_1\ X2\ X0) \wedge ((k1\_seq\_1\ X2\ X0 \neq X1) \wedge ((\exists X3.(m1\_rcomp\_1\ X3\ X0) \wedge (r1\_tarski\ X3\ (k1\_relset\_1\ k1\_numbers\ X2))) \wedge (\forall X3.(m1\_rcomp\_1\ X3\ X0) \Rightarrow (\neg(r1\_tarski\ X3\ (k1\_relset\_1\ k1\_numbers\ X2)) \wedge (\forall X4.(m1\_subset\_1\ X4\ k1\_numbers) \Rightarrow (\neg(X4 \in X3) \wedge (k1\_seq\_1\ X2\ X4 = X1)))))))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{2}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0) \wedge (m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (\forall X1.(v1\_xreal\_0\ X1) \Rightarrow ((r1\_fdiff\_1\ X0\ X1) \Rightarrow (r1\_fcont\_1\ X0\ X1))) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((r1\_tarski\ X0\ X1) \wedge (r1\_tarski\ X1\ X2)) \Rightarrow (r1\_tarski\ X0\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(X0 \in X1) \Rightarrow (m1\_subset\_1\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.r1\_tarski\ X0\ X0 \tag{6}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X1.(v1\_xreal\_0\ X1)\Rightarrow((r1\_fdiff\_1\ X0\ X1)\Leftrightarrow(\exists X2.(m1\_rcomp\_1\ X2\ X1)\wedge((r1\_tarski\ X2\ (k1\_relset\_1\ k1\_numbers\ X0))\wedge(\exists X3.((v1\_funct\_1\ X3)\wedge((v3\_fdiff\_1\ X3)\wedge(m1\_subset\_1\ X3\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))\wedge(\exists X4.((v1\_funct\_1\ X4)\wedge((v2\_fdiff\_1\ X4)\wedge(m1\_subset\_1\ X4\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))))\wedge(\forall X5.(m1\_subset\_1\ X5\ k1\_numbers)\Rightarrow((X5\in X2)\Rightarrow(k9\_real\_1\ (k1\_seq\_1\ X0\ X5)\ (k1\_seq\_1\ X0\ X1) = k7\_real\_1\ (k1\_seq\_1\ X3\ (k9\_real\_1\ X5\ X1))\ (k1\_seq\_1\ X4\ (k9\_real\_1\ X5\ X1))))))))))) \tag{7}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0)\Leftrightarrow(X0\in k1\_numbers) \tag{8}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(v1\_xreal\_0\ X0) \tag{9}$$

**Theorem 1**

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\neg(k1\_seq\_1\ X2\ X0\neq X1)\wedge((r1\_fdiff\_1\ X2\ X0)\wedge(\forall X3.(m1\_rcomp\_1\ X3\ X0)\Rightarrow(\neg(r1\_tarski\ X3\ (k1\_relset\_1\ k1\_numbers\ X2))\wedge(\forall X4.(m1\_subset\_1\ X4\ k1\_numbers)\Rightarrow(\neg(X4\in X3)\wedge(k1\_seq\_1\ X2\ X4 = X1)))))))))$$