t40_fdiff_4 (TMEoJTThpCX-Pit8Rg6QvVV2CJrfXJsAKdn4)

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Let $v3\_rcomp\_1 : \iota \Rightarrow o$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_numbers : \iota$ be given. Let $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k16\_sin\_cos : \iota$ be given. Let $k6\_numbers : \iota$ be given. Let $r2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k6\_rfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k2\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k1\_real\_1 : \iota \Rightarrow \iota$ be given. Let $k10\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k19\_sin\_cos : \iota$ be given. Let $k5\_square\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r1\_fdiff\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $k2\_zfmisc\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k32\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k3\_rfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k20\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_xxreal\_0 : \iota \Rightarrow o$ be given. Let $np\_\_1 : \iota$ be given. Let $m2\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k5\_numbers : \iota$ be given. Let $v3\_membered : \iota \Rightarrow o$ be given. Let $k4\_rfunct\_1 : \iota \Rightarrow \iota$ be given. Let $k1\_xboole\_0 : \iota$ be given. Let $v1\_funct\_2 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow ((r2\_fdiff\_1\ k16\_sin\_cos\ k1\_numbers) \wedge (k1\_fdiff\_1\ k16\_sin\_cos\ X0 = k1\_seq\_1\ k19\_sin\_cos\ X0)) \tag{1}$$

Assume the following.

$$\forall X0.(v1\_xreal\_0\ X0) \Rightarrow ((r1\_fdiff\_1\ k16\_sin\_cos\ X0) \wedge (k1\_fdiff\_1\ k16\_sin\_cos\ X0 = k1\_seq\_1\ k19\_sin\_cos\ X0)) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1)) \Leftrightarrow (r1\_tarski\ X0\ X1) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.((v3\_rcomp\_1\ X1) \wedge (m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ k1\_numbers))) \Rightarrow (\forall X2.((v1\_funct\_1\ X2) \wedge (m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \Rightarrow (((r2\_fdiff\_1\ X2\ X0) \wedge (r1\_tarski\ X1\ X0)) \Rightarrow (r2\_fdiff\_1\ X2\ X1))) \tag{4}$$

Assume the following.

$$\forall X0.((v3\_rcomp\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers)))\Rightarrow (\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(((r2\_fdiff\_1\ X1\ X0)\wedge(\forall X2.\ (m1\_subset\_1\ X2\ k1\_numbers)\Rightarrow(\neg(X2\in X0)\wedge(k1\_seq\_1\ X1\ X2 = k6\_numbers))))\Rightarrow ((r2\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ X1)\ X0)\wedge(r2\_relset\_1\ k1\_numbers\ k1\_numbers\ (k2\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ X1)\ X0)\ (k32\_valued\_1\ k1\_numbers\ k1\_numbers\ (k3\_rfunct\_1\ k1\_numbers\ k1\_numbers\ (k2\_fdiff\_1\ X1\ X0)\ (k20\_valued\_1\ k1\_numbers\ k1\_numbers\ k1\_numbers\ X1\ X1)))))))) \tag{5}$$

Assume the following.

$$\forall X0.(m1\_subset\_1\ X0\ k1\_numbers)\Rightarrow(\forall X1.((v1\_funct\_1\ X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow ((r1\_fdiff\_1\ X1\ X0)\Rightarrow((k1\_seq\_1\ X1\ X0 = k6\_numbers)\vee((r1\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ X1)\ X0)\wedge(k1\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ X1)\ X0 = k1\_real\_1\ (k10\_real\_1\ (k1\_fdiff\_1\ X1\ X0)\ (k5\_square\_1\ (k1\_seq\_1\ X1\ X0))))))))) \tag{6}$$

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.

$$\forall X0.\forall X1.\forall X2.((v3\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(k6\_rfunct\_1\ X0\ X1\ X2 = k4\_rfunct\_1\ X2) \tag{8}$$

Assume the following.

$$k6\_numbers = k1\_xboole\_0 \tag{9}$$

Assume the following.

$$v3\_membered\ k1\_numbers \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v3\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow((v1\_funct\_1\ (k6\_rfunct\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k6\_rfunct\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \tag{11}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow((v1\_funct\_1\ (k2\_fdiff\_1\ X0\ X1))\wedge(m1\_subset\_1\ (k2\_fdiff\_1\ X0\ X1)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \tag{12}$$

Assume the following.

$$(v1\_funct\_1\ k16\_sin\_cos)\wedge((v1\_funct\_2\ k16\_sin\_cos\ k1\_numbers\ k1\_numbers)\wedge(m1\_subset\_1\ k16\_sin\_cos\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers)))) \tag{13}$$

Assume the following.

$$\forall X0.((v1\_funct\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow(\forall X1.(r2\_fdiff\_1\ X0\ X1)\Rightarrow(\forall X2.((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ k1\_numbers\ k1\_numbers))))\Rightarrow((X2 = k2\_fdiff\_1\ X0\ X1)\Leftrightarrow((k1\_relset\_1\ k1\_numbers\ X2 = X1)\wedge(\forall X3.(m1\_subset\_1\ X3\ k1\_numbers)\Rightarrow((X3 \in X1)\Rightarrow(k1\_seq\_1\ X2\ X3 = k1\_fdiff\_1\ X0\ X3))))))) \tag{14}$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(\forall X1.(m1\_subset\_1\ X1\ X0)\Rightarrow(v1\_xreal\_0\ X1)) \tag{15}$$

Theorem 1

$$\forall X0.((v3\_rcomp\_1\ X0)\wedge(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ k1\_numbers)))\Rightarrow((\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow(\neg(X1 \in X0)\wedge(k1\_seq\_1\ k16\_sin\_cos\ X1 = k6\_numbers)))\Rightarrow((r2\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ k16\_sin\_cos)\ X0)\wedge(\forall X1.(m1\_subset\_1\ X1\ k1\_numbers)\Rightarrow((X1 \in X0)\Rightarrow(k1\_seq\_1\ (k2\_fdiff\_1\ (k6\_rfunct\_1\ k1\_numbers\ k1\_numbers\ k16\_sin\_cos)\ X0)\ X1 = k1\_real\_1\ (k10\_real\_1\ (k1\_seq\_1\ k19\_sin\_cos\ X1)\ (k5\_square\_1\ (k1\_seq\_1\ k16\_sin\_cos\ X1))))))))$$