t74_rfunct_1 (TMKguoYmZZHGaugd-CaQrbH4hFXNoZsMhPaP)

October 27, 2020

Let $v1\_relat\_1 : \iota \Rightarrow o$ be given. Let $v1\_funct\_1 : \iota \Rightarrow o$ be given. Let $v3\_valued\_0 : \iota \Rightarrow o$ be given. Let $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $v1\_seq\_2 : \iota \Rightarrow o$ be given. Let $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $v2\_seq\_2 : \iota \Rightarrow o$ be given. Let $v1\_comseq\_2 : \iota \Rightarrow o$ be given. Let $v1\_xreal\_0 : \iota \Rightarrow o$ be given. Let $k3\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $k9\_xtuple\_0 : \iota \Rightarrow \iota$ be given. Let $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$ be given. Let $m1\_subset\_1 : \iota \Rightarrow \iota \Rightarrow o$ be given. Let $k1\_zfmisc\_1 : \iota \Rightarrow \iota$ be given. Let $v1\_xboole\_0 : \iota \Rightarrow o$ be given. Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_valued\_0\ X1)))\Rightarrow((v2\_seq\_2\ (k5\_relat\_1\ X1\ X0))\Leftrightarrow(\exists X2.(v1\_xreal\_0\ X2)\wedge(\forall X3.(X3 \in k3\_xboole\_0\ X0\ (k9\_xtuple\_0\ X1))\Rightarrow(r1\_xxreal\_0\ X2\ (k1\_funct\_1\ X1\ X3))))) \tag{1}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_valued\_0\ X1)))\Rightarrow((v1\_seq\_2\ (k5\_relat\_1\ X1\ X0))\Leftrightarrow(\exists X2.(v1\_xreal\_0\ X2)\wedge(\forall X3.(X3 \in k3\_xboole\_0\ X0\ (k9\_xtuple\_0\ X1))\Rightarrow(r1\_xxreal\_0\ (k1\_funct\_1\ X1\ X3)\ X2)))) \tag{2}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\neg(X0 \in X1)\wedge((m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2))\wedge(v1\_xboole\_0\ X2)) \tag{3}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((X0 \in X1)\wedge(m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ X2)))\Rightarrow(m1\_subset\_1\ X0\ X2) \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ (k1\_zfmisc\_1\ X1))\Leftrightarrow(r1\_tarski\ X0\ X1) \tag{5}$$

Assume the following.

$$\forall X0.\forall X1.(m1\_subset\_1\ X0\ X1)\Rightarrow((v1\_xboole\_0\ X1)\vee (X0 \in X1)) \tag{6}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge(v1\_funct\_1\ X0))\Rightarrow((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1))\wedge(v1\_funct\_1\ (k5\_relat\_1\ X0\ X1))) \tag{7}$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge(v3\_valued\_0\ X0))\Rightarrow((v1\_relat\_1\ (k5\_relat\_1\ X0\ X1))\wedge(v3\_valued\_0\ (k5\_relat\_1\ X0\ X1))) \tag{8}$$

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1\ X0)\Rightarrow(v1\_relat\_1\ (k5\_relat\_1\ X0\ X1)) \tag{9}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k3\_xboole\_0\ X0\ X1)\Leftrightarrow(\forall X3.\ (X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(X3 \in X1))) \tag{10}$$

Assume the following.

$$\forall X0.\forall X1.k3\_xboole\_0\ X0\ X1 = k3\_xboole\_0\ X1\ X0 \tag{11}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge((v1\_seq\_2\ X0)\wedge(v2\_seq\_2\ X0)))))\Rightarrow((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge(v1\_comseq\_2\ X0)))) \tag{12}$$

Assume the following.

$$\forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge((v3\_valued\_0\ X0)\wedge(v1\_comseq\_2\ X0))))\Rightarrow((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge ((v3\_valued\_0\ X0)\wedge((v1\_seq\_2\ X0)\wedge(v2\_seq\_2\ X0))))) \tag{13}$$

Theorem 1

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1\ X2)\wedge((v1\_funct\_1\ X2)\wedge(v3\_valued\_0\ X2)))\Rightarrow((((r1\_tarski\ X0\ X1)\wedge(v1\_seq\_2\ (k5\_relat\_1\ X2\ X1)))\Rightarrow(v1\_seq\_2\ (k5\_relat\_1\ X2\ X0)))\wedge((((r1\_tarski\ X0\ X1)\wedge (v2\_seq\_2\ (k5\_relat\_1\ X2\ X1)))\Rightarrow(v2\_seq\_2\ (k5\_relat\_1\ X2\ X0)))\wedge (((r1\_tarski\ X0\ X1)\wedge(v1\_comseq\_2\ (k5\_relat\_1\ X2\ X1)))\Rightarrow(v1\_comseq\_2\ (k5\_relat\_1\ X2\ X0)))))$$