

## t89\_rfunct\_1

(TMdmkVUFGx6aKUq6ZfjLCWsFKmm9kpMiKRk)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. 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  $k1\_numbers : \iota$  be given. Let  $v3\_funct\_1 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge ((v1\_funct\_1 X1) \wedge (v1\_valued\_0 \\ X1))) \Rightarrow (\forall X2. (v1\_xcmplx\_0 X2) \Rightarrow (k5\_relat\_1 (k24\_valued\_1 \\ X1 X2) X0 = k24\_valued\_1 (k5\_relat\_1 X1 X0) X2)) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge \\ (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (k2\_partfun1 \\ X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \end{aligned} \quad (2)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. \forall X2. \forall X3. ((v3\_membered X1) \wedge \\ (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 X1)))) \wedge (v1\_xreal\_0 X3))) \Rightarrow (k26\_valued\_1 X0 X1 X2 X3 = k24\_valued\_1 \\ X2 X3) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow ((v1\_relat\_1 \\ (k5\_relat\_1 X0 X1)) \wedge (v1\_funct\_1 (k5\_relat\_1 X0 X1))) \end{aligned} \quad (4)$$

Assume the following.

$$v3\_membered k1\_numbers \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((\neg v1\_xboole\_0 X0)\wedge(((v1\_funct\_1 X1)\wedge((v3\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))))\wedge(v1\_xreal\_0 X2)))\Rightarrow((v1\_relat\_1 (k24\_valued\_1 X1 X2))\wedge((v1\_funct\_1 (k24\_valued\_1 X1 X2))\wedge(v3\_funct\_1 (k24\_valued\_1 X1 X2))))$$

(6)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((v1\_funct\_1 (k2\_partfun1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))$$

(7)

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered X1)\wedge(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge(v1\_xreal\_0 X3)))\Rightarrow((v1\_funct\_1 (k26\_valued\_1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k26\_valued\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k1\_numbers))))$$

(8)

Assume the following.

$$\forall X0.(v3\_membered X0)\Rightarrow(v1\_membered X0)$$

(9)

Assume the following.

$$\forall X0.(v1\_xreal\_0 X0)\Rightarrow(v1\_xcmplx\_0 X0)$$

(10)

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2)$$

(11)

Assume the following.

$$\forall X0.\forall X1.(v1\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_valued\_0 X2))$$

(12)

**Theorem 1**

$$\forall X0.\forall X1.(\neg v1\_xboole\_0 X1)\Rightarrow(\forall X2.(v1\_xreal\_0 X2)\Rightarrow(\forall X3.((v1\_funct\_1 X3)\wedge(m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X1 k1\_numbers))))\Rightarrow((v3\_funct\_1 (k2\_partfun1 X1 k1\_numbers X3 X0))\Rightarrow(v3\_funct\_1 (k2\_partfun1 X1 k1\_numbers (k26\_valued\_1 X1 k1\_numbers X3 X2) X0))))))$$