

## t36\_cfunct\_1

(TMGTq6ARkJC5hAmRAEprxbCXK6NYYWLpbLU)

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Let  $v1\_xboole\_0 : \iota \Rightarrow o$  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  $k2\_numbers : \iota$  be given. Let  $k6\_numbers : \iota$  be given. Let  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k2\_cfunct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k25\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k12\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k7\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k9\_complex1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k5\_xcmplx\_0 : \iota \Rightarrow \iota$  be given. Let  $k8\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_tarski : \iota \Rightarrow \iota$  be given. Let  $k7\_subset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k4\_xboole\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned}
 & \forall X0. (\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1. ((v1\_funct\_1 X1) \wedge ( \\
 & \quad m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ( \\
 & \quad \forall X2. (m1\_subset\_1 X2 k2\_numbers) \Rightarrow ((k1\_relset\_1 X0 (k25\_valued\_1 \\
 & \quad X0 k2\_numbers X1 X2) = k1\_relset\_1 X0 X1) \wedge (\forall X3. (m1\_subset\_1 \\
 & \quad X3 X0) \Rightarrow ((X3 \in k1\_relset\_1 X0 (k25\_valued\_1 X0 k2\_numbers X1 X2)) \Rightarrow \\
 & \quad (k7\_partfun1 k2\_numbers (k25\_valued\_1 X0 k2\_numbers X1 X2) X3 = \\
 & \quad k9\_complex1 X2 (k7\_partfun1 k2\_numbers X1 X3))))))
 \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned}
 & \forall X0. (v1\_xcmplx\_0 X0) \Rightarrow (\forall X1. (v1\_xcmplx\_0 X1) \Rightarrow (k3\_xcmplx\_0 \\
 & \quad (k5\_xcmplx\_0 X0) (k5\_xcmplx\_0 X1) = k5\_xcmplx\_0 (k3\_xcmplx\_0 X0 \\
 & \quad X1)))
 \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.(\neg v1\_xboole\_0 X1) \Rightarrow \\ & (\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X1 X0)))) \Rightarrow (\forall X3.((v1\_funct\_1 X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 X1 X0)))) \Rightarrow (((k1\_relset\_1 X1 X2 = k1\_relset\_1 X1 X3) \wedge \\ & (\forall X4.(m1\_subset\_1 X4 X1) \Rightarrow ((X4 \in k1\_relset\_1 X1 X2) \Rightarrow (k7\_partfun1 \\ & X0 X2 X4 = k7\_partfun1 X0 X3 X4)))) \Rightarrow (r2\_relset\_1 X1 X0 X2 X3)))))) \end{aligned} \quad (3)$$

Assume the following.

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ & m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ( \\ & \forall X2.(m1\_subset\_1 X2 k2\_numbers) \Rightarrow ((X2 \neq k6\_numbers) \Rightarrow (k8\_relset\_1 \\ & X0 k2\_numbers (k25\_valued\_1 X0 k2\_numbers X1 X2) (k1\_tarski k6\_numbers) = \\ & k8\_relset\_1 X0 k2\_numbers X1 (k1\_tarski k6\_numbers)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k2\_numbers) \wedge (m1\_subset\_1 X1 k2\_numbers)) \Rightarrow (k9\_complex1 X0 X1 = k3\_xcmplx\_0 X0 X1) \quad (5)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X1 (k1\_zfmisc\_1 X0)) \Rightarrow (k7\_subset\_1 X0 X1 X2 = k4\_xboole\_0 X1 X2) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_membered X1) \wedge \\ & (((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & X0 X1)))) \wedge (v1\_xcmplx\_0 X3))) \Rightarrow (k25\_valued\_1 X0 X1 X2 X3 = k24\_valued\_1 \\ & X2 X3) \end{aligned} \quad (7)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (8)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k2\_numbers) \Rightarrow (k12\_complex1 X0 = k5\_xcmplx\_0 X0) \quad (9)$$

Assume the following.

$$\neg v1\_xboole\_0 k2\_numbers \quad (10)$$

Assume the following.

$$v1\_membered k2\_numbers \quad (11)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_relat\_1 X1)\wedge((v5\_relat\_1 X1 X0)\wedge(v1\_funct\_1 X1)))\Rightarrow(m1\_subset\_1 (k7\_partfun1 X0 X1 X2) X0) \quad (12)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0 X0)\Rightarrow(v1\_xcmplx\_0 (k5\_xcmplx\_0 X0)) \quad (13)$$

Assume the following.

$$\forall X0.\forall X1.(((\neg v1\_xboole\_0 X0)\wedge((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers))))))\Rightarrow((v1\_funct\_1 (k2\_cfunct\_1 X0 X1))\wedge(m1\_subset\_1 (k2\_cfunct\_1 X0 X1) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \quad (14)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered X1)\wedge(((v1\_funct\_1 X2)\wedge(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\wedge(v1\_xcmplx\_0 X3)))\Rightarrow((v1\_funct\_1 (k25\_valued\_1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k25\_valued\_1 X0 X1 X2 X3) (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \quad (15)$$

Assume the following.

$$\forall X0.\forall X1.(((v1\_relat\_1 X0)\wedge((v1\_funct\_1 X0)\wedge(v1\_valued\_0 X0)))\wedge(v1\_xcmplx\_0 X1))\Rightarrow((v1\_relat\_1 (k24\_valued\_1 X0 X1))\wedge(v1\_funct\_1 (k24\_valued\_1 X0 X1))) \quad (16)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1)\wedge(v4\_relat\_1 X1 X0))\Rightarrow(m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (17)$$

Assume the following.

$$\forall X0.(m1\_subset\_1 X0 k2\_numbers)\Rightarrow(m1\_subset\_1 (k12\_complex1 X0) k2\_numbers) \quad (18)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(X2 = k4\_xboole\_0 X0 X1)\Leftrightarrow(\forall X3.(X3 \in X2)\Leftrightarrow((X3 \in X0)\wedge(\neg X3 \in X1))) \quad (19)$$

Assume the following.

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ( \\ \forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ X0 k2\_numbers)))) \Rightarrow ((X2 = k2\_cfunct\_1 X0 X1) \Leftrightarrow ((k1\_relset\_1 X0 X2 = \\ k7\_subset\_1 X0 (k1\_relset\_1 X0 X1) (k8\_relset\_1 X0 k2\_numbers X1 \\ (k1\_tarski k6\_numbers))) \wedge (\forall X3.(m1\_subset\_1 X3 X0) \Rightarrow (( \\ X3 \in k1\_relset\_1 X0 X2) \Rightarrow (k7\_partfun1 k2\_numbers X2 X3 = k12\_complex1 \\ (k7\_partfun1 k2\_numbers X1 X3)))))))))) \end{aligned} \quad (20)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (21)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (22)$$

Assume the following.

$$\forall X0.\forall X1.(v1\_membered X1) \Rightarrow (\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_valued\_0 X2)) \quad (23)$$

Assume the following.

$$\forall X0.(v1\_membered X0) \Rightarrow (\forall X1.(m1\_subset\_1 X1 X0) \Rightarrow (v1\_xcmplx\_0 X1)) \quad (24)$$

### Theorem 1

$$\begin{aligned} \forall X0.(\neg v1\_xboole\_0 X0) \Rightarrow (\forall X1.((v1\_funct\_1 X1) \wedge ( \\ m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 k2\_numbers)))) \Rightarrow ( \\ \forall X2.(m1\_subset\_1 X2 k2\_numbers) \Rightarrow ((X2 \neq k6\_numbers) \Rightarrow (r2\_relset\_1 \\ X0 k2\_numbers (k2\_cfunct\_1 X0 (k25\_valued\_1 X0 k2\_numbers X1 X2)) \\ (k25\_valued\_1 X0 k2\_numbers (k2\_cfunct\_1 X0 X1) (k12\_complex1 \\ X2)))))) \end{aligned}$$