

# t30\_cfunct\_1 (TMWSRnyc- sXtsZ9TUyEUA4enLQkmtmei3nzK)

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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  $r2\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_numbers : \iota$  be given. Let  $k55\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k25\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k26\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k17\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xcmplx\_0 : \iota \Rightarrow o$  be given. Let  $k3\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k8\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $v1\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k54\_valued\_1 : \iota \Rightarrow \iota$  be given. Let  $v1\_xreal\_0 : \iota \Rightarrow o$  be given. Let  $v1\_membered : \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $k24\_valued\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k16\_complex1 : \iota \Rightarrow \iota$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Assume the following.

$$\begin{aligned} \forall X0.(v1\_xcmplx\_0 X0) \Rightarrow (\forall X1.(v1\_xcmplx\_0 X1) \Rightarrow (k17\_complex1 \\ (k3\_xcmplx\_0 X0 X1) = k8\_real\_1 (k17\_complex1 X0) (k17\_complex1 \\ X1))) \end{aligned} \tag{1}$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v1\_valued\_0 X0))) \Rightarrow \\ (\forall X1.k1\_funct\_1 (k54\_valued\_1 X0) X1 = k17\_complex1 (k1\_funct\_1 \\ X0 X1)) \end{aligned} \tag{2}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.\forall X2.\forall X3.((m1\_subset\_1 X2 \\ (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 \\ (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((r2\_relset\_1 X0 X1 X2 X3) \Leftrightarrow (X2 = X3)) \end{aligned} \tag{3}$$

Assume the following.

$$\begin{aligned} \forall X0.\forall X1.((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 \\ X1)) \Rightarrow (k8\_real\_1 X0 X1 = k3\_xcmplx\_0 X0 X1) \end{aligned} \tag{4}$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(k55\_valued\_1\ X0\ X1\ X2 = k54\_valued\_1\ X2) \quad (5)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.\forall X3.((v3\_membered\ X1)\wedge(((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1))))\wedge(v1\_xreal\_0\ X3)))\Rightarrow(k26\_valued\_1\ X0\ X1\ X2\ X3 = k24\_valued\_1\ X2\ X3) \quad (6)$$

Assume the following.

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

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(k17\_complex1\ X0 = k16\_complex1\ X0) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow(v1\_xcmplx\_0\ (k1\_funct\_1\ X0\ X1)) \quad (9)$$

Assume the following.

$$v3\_membered\ k1\_numbers \quad (10)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.\forall X2.((v1\_membered\ X1)\wedge((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))))\Rightarrow(((v1\_funct\_1\ (k55\_valued\_1\ X0\ X1\ X2))\wedge(m1\_subset\_1\ (k55\_valued\_1\ X0\ X1\ X2)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k1\_numbers)))) \quad (12)$$

Assume the following.

$$\forall X0.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow(((v1\_relat\_1\ (k54\_valued\_1\ X0))\wedge((v1\_funct\_1\ (k54\_valued\_1\ X0))\wedge(v3\_valued\_0\ (k54\_valued\_1\ X0)))) \quad (13)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_membered\ X1)\wedge \\ & (((v1\_funct\_1\ X2)\wedge(m1\_subset\_1\ X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ X1))))\wedge(v1\_xcmplx\_0\ X3)))\Rightarrow((v1\_funct\_1\ (k25\_valued\_1\ X0\ X1 \\ & X2\ X3))\wedge(m1\_subset\_1\ (k25\_valued\_1\ X0\ X1\ X2\ X3)\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1 \\ & X0\ k2\_numbers)))) \end{aligned} \quad (14)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0 \\ & X0)))\wedge(v1\_xcmplx\_0\ X1))\Rightarrow((v1\_relat\_1\ (k24\_valued\_1\ X0\ X1))\wedge \\ & (v1\_funct\_1\ (k24\_valued\_1\ X0\ X1))) \end{aligned} \quad (15)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(m1\_subset\_1\ (k17\_complex1\ X0\ k1\_numbers) \quad (16)$$

Assume the following.

$$\forall X0.(v1\_xcmplx\_0\ X0)\Rightarrow(v1\_xreal\_0\ (k16\_complex1\ X0)) \quad (17)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow \\ & (\forall X1.(v1\_xcmplx\_0\ X1)\Rightarrow(\forall X2.((v1\_relat\_1\ X2)\wedge \\ & v1\_funct\_1\ X2)\Rightarrow((X2 = k24\_valued\_1\ X0\ X1)\Leftrightarrow((k9\_xtuple\_0\ X2 = k9\_xtuple\_0 \\ & X0)\wedge(\forall X3.(X3 \in k9\_xtuple\_0\ X2)\Rightarrow(k1\_funct\_1\ X2\ X3 = k3\_xcmplx\_0 \\ & X1\ (k1\_funct\_1\ X0\ X3)))))) \end{aligned} \quad (18)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_relat\_1\ X0)\wedge((v1\_funct\_1\ X0)\wedge(v1\_valued\_0\ X0)))\Rightarrow \\ & (\forall X1.((v1\_relat\_1\ X1)\wedge((v1\_funct\_1\ X1)\wedge(v3\_valued\_0 \\ & X1)))\Rightarrow((X1 = k54\_valued\_1\ X0)\Leftrightarrow((k9\_xtuple\_0\ X1 = k9\_xtuple\_0\ X0)\wedge \\ & (\forall X2.(X2 \in k9\_xtuple\_0\ X1)\Rightarrow(k1\_funct\_1\ X1\ X2 = k17\_complex1 \\ & (k1\_funct\_1\ X0\ X2)))))) \end{aligned} \quad (19)$$

Assume the following.

$$\forall X0.(v3\_membered\ X0)\Rightarrow(v1\_membered\ X0) \quad (20)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.(m1\_subset\_1\ X2\ (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_relat\_1\ X2) \end{aligned} \quad (21)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.(v1\_membered\ X1)\Rightarrow(\forall X2.(m1\_subset\_1 \\ & X2\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ X1)))\Rightarrow(v1\_valued\_0\ X2)) \end{aligned} \quad (22)$$

Assume the following.

$$\forall X0.(v1\_membered\ X0) \Rightarrow (\forall X1.(m1\_subset\_1\ X1\ X0) \Rightarrow (v1\_xcmplx\_0\ X1)) \quad (23)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.(\neg v1\_xboole\_0\ X0) \Rightarrow (\forall X1.((v1\_funct\_1\ X1) \wedge ( \\ & m1\_subset\_1\ X1\ (k1\_zfmisc\_1\ (k2\_zfmisc\_1\ X0\ k2\_numbers)))) \Rightarrow ( \\ & \forall X2.(m1\_subset\_1\ X2\ k2\_numbers) \Rightarrow (r2\_relset\_1\ X0\ k1\_numbers \\ & (k55\_valued\_1\ X0\ k2\_numbers\ (k25\_valued\_1\ X0\ k2\_numbers\ X1\ X2)) \\ & (k26\_valued\_1\ X0\ k1\_numbers\ (k55\_valued\_1\ X0\ k2\_numbers\ X1)\ (k17\_complex1 \\ & X2)))))) \end{aligned}$$