

## t1\_fcont\_2

(TMKm2YNTm77RR9FUfJS8mvnB2ZBvYHKWzMi)

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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  $v1\_fcont\_2 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k18\_complex1 : \iota \Rightarrow \iota$  be given. Let  $k9\_real\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_seq\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v3\_valued\_0 : \iota \Rightarrow o$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v3\_membered : \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. \forall X2. ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \Rightarrow ((X0 \in k9\_xtuple\_0 (k5\_relat\_1 X2 X1)) \Rightarrow (k1\_funct\_1 (k5\_relat\_1 X2 X1) X0 = k1\_funct\_1 X2 X0)) \quad (1)$$

Assume the following.

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

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X0) \wedge ((v1\_funct\_1 X0) \wedge (v3\_valued\_0 X0))) \Rightarrow (k1\_seq\_1 X0 X1 = k1\_funct\_1 X0 X1) \quad (3)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (4)$$

Assume the following.

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

Assume the following.

$$\forall X0.\forall X1.(v1\_relat\_1 X0)\Rightarrow(v1\_relat\_1 (k5\_relat\_1 X0 X1)) \quad (6)$$

Assume the following.

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.\forall X3.((v1\_funct\_1 X2)\wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))))\Rightarrow((v1\_funct\_1 \\ & (k2\_partfun1 X0 X1 X2 X3))\wedge(m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0.((v1\_funct\_1 X0)\wedge(m1\_subset\_1 X0 (k1\_zfmisc\_1 (k2\_zfmisc\_1 \\ & k1\_numbers k1\_numbers))))\Rightarrow((v1\_fcont\_2 X0)\Leftrightarrow(\forall X1.(m1\_subset\_1 \\ & X1 k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0 X1 k6\_numbers)\wedge(\forall X2.( \\ & m1\_subset\_1 X2 k1\_numbers)\Rightarrow(\neg(\neg r1\_xxreal\_0 X2 k6\_numbers)\wedge( \\ & \forall X3.(m1\_subset\_1 X3 k1\_numbers)\Rightarrow(\forall X4.(m1\_subset\_1 \\ & X4 k1\_numbers)\Rightarrow(\neg(X3 \in k1\_relset\_1 k1\_numbers X0)\wedge((X4 \in k1\_relset\_1 \\ & k1\_numbers X0)\wedge(\neg r1\_xxreal\_0 X2 (k18\_complex1 (k9\_real\_1 X3 \\ & X4))))\wedge(r1\_xxreal\_0 X1 (k18\_complex1 (k9\_real\_1 (k1\_seq\_1 X0 X3) \\ & (k1\_seq\_1 X0 X4)))))))))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow((v4\_relat\_1 X2 X0)\wedge(v5\_relat\_1 X2 X1)) \quad (9)$$

Assume the following.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v1\_relat\_1 X2) \quad (10)$$

Assume the following.

$$\forall X0.\forall X1.(v3\_membered X1)\Rightarrow(\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))\Rightarrow(v3\_valued\_0 X2)) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\Rightarrow((v1\_fcont\_2 (k2\_partfun1 \\ & k1\_numbers k1\_numbers X1 X0))\Leftrightarrow(\forall X2.(m1\_subset\_1 X2 k1\_numbers)\Rightarrow \\ & (\neg(\neg r1\_xxreal\_0 X2 k6\_numbers)\wedge(\forall X3.(m1\_subset\_1 X3 k1\_numbers)\Rightarrow \\ & (\neg(\neg r1\_xxreal\_0 X3 k6\_numbers)\wedge(\forall X4.(m1\_subset\_1 X4 k1\_numbers)\Rightarrow \\ & (\forall X5.(m1\_subset\_1 X5 k1\_numbers)\Rightarrow(\neg(X4 \in k1\_relset\_1 k1\_numbers \\ & (k2\_partfun1 k1\_numbers k1\_numbers X1 X0))\wedge((X5 \in k1\_relset\_1 \\ & k1\_numbers (k2\_partfun1 k1\_numbers k1\_numbers X1 X0))\wedge(\neg r1\_xxreal\_0 \\ & X3 (k18\_complex1 (k9\_real\_1 X4 X5))))\wedge(r1\_xxreal\_0 X2 (k18\_complex1 \\ & (k9\_real\_1 (k1\_seq\_1 X1 X4) (k1\_seq\_1 X1 X5)))))))))) \end{aligned}$$