

## t9\_fcont\_2

(TMNyA9Eoc2hZP9jBU69LDkC4k72vJ6vCAro)

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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  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_fcont\_2 : \iota \Rightarrow o$  be given. Let  $k2\_partfun1 : \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v1\_fcont\_1 : \iota \Rightarrow o$  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  $r1\_xxreal\_0 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k6\_numbers : \iota$  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  $v1\_xxreal\_0 : \iota \Rightarrow o$  be given. Let  $k6\_xcmplx\_0 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\forall X0. \forall X1. (v1\_relat\_1 X1) \Rightarrow ((r1\_tarski X0 (k9\_xtuple\_0 X1)) \Rightarrow (k9\_xtuple\_0 (k5\_relat\_1 X1 X0) = X0)) \quad (1)$$

Assume the following.

$$\forall X0. \forall X1. (X0 \in X1) \Rightarrow (m1\_subset\_1 X0 X1) \quad (2)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow ((v1\_fcont\_2 (k2\_partfun1 \\ & k1\_numbers k1\_numbers X1 X0)) \Leftrightarrow (\forall X2. (m1\_subset\_1 X2 k1\_numbers) \Rightarrow \\ & (\neg(\neg r1\_xxreal\_0 X2 k6\_numbers) \wedge (\forall X3. (m1\_subset\_1 X3 k1\_numbers) \Rightarrow \\ & (\neg(\neg r1\_xxreal\_0 X3 k6\_numbers) \wedge (\forall X4. (m1\_subset\_1 X4 k1\_numbers) \Rightarrow \\ & (\forall X5. (m1\_subset\_1 X5 k1\_numbers) \Rightarrow (\neg(X4 \in k1\_relset\_1 k1\_numbers \\ & (k2\_partfun1 k1\_numbers k1\_numbers X1 X0)) \wedge ((X5 \in k1\_relset\_1 \\ & k1\_numbers (k2\_partfun1 k1\_numbers k1\_numbers X1 X0)) \wedge ((\neg r1\_xxreal\_0 \\ & X3 (k18\_complex1 (k9\_real\_1 X4 X5))) \wedge (r1\_xxreal\_0 X2 (k18\_complex1 \\ & (k9\_real\_1 (k1\_seq\_1 X1 X4) (k1\_seq\_1 X1 X5)))))))))))))) \quad (3) \end{aligned}$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. ((v1\_funct\_1 X1) \wedge (m1\_subset\_1 X1 (k1\_zfmisc\_1 \\ & (k2\_zfmisc\_1 k1\_numbers k1\_numbers)))) \Rightarrow ((r1\_tarski X0 (k1\_relset\_1 \\ & k1\_numbers X1)) \Rightarrow ((v1\_fcont\_1 (k2\_partfun1 k1\_numbers k1\_numbers \\ & X1 X0)) \Leftrightarrow (\forall X2. (v1\_xreal\_0 X2) \Rightarrow (\forall X3. (v1\_xreal\_0 \\ & X3) \Rightarrow (\neg(X2 \in X0) \wedge ((\neg r1\_xxreal\_0 X3 k6\_numbers) \wedge (\forall X4. (v1\_xreal\_0 \\ & X4) \Rightarrow (\neg(\neg r1\_xxreal\_0 X4 k6\_numbers) \wedge (\forall X5. (v1\_xreal\_0 \\ & X5) \Rightarrow (\neg(X5 \in X0) \wedge ((\neg r1\_xxreal\_0 X4 (k18\_complex1 (k6\_xcmplx\_0 \\ & X5 X2))) \wedge (r1\_xxreal\_0 X3 (k18\_complex1 (k9\_real\_1 (k1\_seq\_1 X1 \\ & X5) (k1\_seq\_1 X1 X2))))))))))))))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. ((m1\_subset\_1 X0 k1\_numbers) \wedge (v1\_xreal\_0 X1)) \Rightarrow (k9\_real\_1 X0 X1 = k6\_xcmplx\_0 X0 X1) \quad (5)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (k2\_partfun1 \\ & X0 X1 X2 X3 = k5\_relat\_1 X2 X3) \end{aligned} \quad (6)$$

Assume the following.

$$\forall X0. \forall X1. ((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (k1\_relset\_1 X0 X1 = k9\_xtuple\_0 X1) \quad (7)$$

Assume the following.

$$\begin{aligned} & \forall X0. \forall X1. \forall X2. \forall X3. ((v1\_funct\_1 X2) \wedge \\ & (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow ((v1\_funct\_1 \\ & (k2\_partfun1 X0 X1 X2 X3)) \wedge (m1\_subset\_1 (k2\_partfun1 X0 X1 X2 X3) \\ & (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \end{aligned} \quad (8)$$

Assume the following.

$$\forall X0. (v1\_xreal\_0 X0) \Leftrightarrow (X0 \in k1\_numbers) \quad (9)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow ((v4\_relat\_1 X2 X0) \wedge (v5\_relat\_1 X2 X1)) \quad (10)$$

Assume the following.

$$\forall X0. (m1\_subset\_1 X0 k1\_numbers) \Rightarrow (v1\_xreal\_0 X0) \quad (11)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. (m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (12)$$

**Theorem 1**

$$\forall X0.\forall X1.((v1\_funct\_1 X1)\wedge(m1\_subset\_1 X1 (k1\_zfmisc\_1 (k2\_zfmisc\_1 k1\_numbers k1\_numbers))))\Rightarrow(((r1\_tarski X0 (k1\_relset\_1 k1\_numbers X1))\wedge(v1\_fcont\_2 (k2\_partfun1 k1\_numbers k1\_numbers X1 X0)))\Rightarrow(v1\_fcont\_1 (k2\_partfun1 k1\_numbers k1\_numbers X1 X0)))$$