

## t67\_partfun1

(TMNF4Renhw1m2ZSDMDX7K1hqQB2o25BvZiq)

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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  $r1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_partfun1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $v1\_relat\_1 : \iota \Rightarrow o$  be given. Let  $r1\_tarski : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k9\_xtuple\_0 : \iota \Rightarrow \iota$  be given. Let  $k1\_funct\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v4\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Let  $k1\_relset\_1 : \iota \Rightarrow \iota \Rightarrow \iota$  be given. Let  $v5\_relat\_1 : \iota \Rightarrow \iota \Rightarrow o$  be given. Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_tarski (k9\_xtuple\_0 X0) \\ (k9\_xtuple\_0 X1)) \Rightarrow ((r1\_partfun1 X0 X1) \Leftrightarrow (\forall X2.(X2 \in k9\_xtuple\_0 \\ X0) \Rightarrow (k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2)))))) \end{aligned} \quad (1)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_partfun1 X0 X1) \Leftrightarrow (\exists X2. \\ ((v1\_relat\_1 X2) \wedge (v1\_funct\_1 X2)) \wedge ((r1\_tarski X0 X2) \wedge (r1\_tarski \\ X1 X2)))))) \end{aligned} \quad (2)$$

Assume the following.

$$\forall X0. \forall X1. (m1\_subset\_1 X0 (k1\_zfmisc\_1 X1)) \Leftrightarrow (r1\_tarski X0 X1) \quad (3)$$

Assume the following.

$$\begin{aligned} \forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(( \\ v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1)) \Rightarrow ((r1\_tarski X0 X1) \Leftrightarrow ((r1\_tarski \\ (k9\_xtuple\_0 X0) (k9\_xtuple\_0 X1)) \wedge (\forall X2.(X2 \in k9\_xtuple\_0 \\ X0) \Rightarrow (k1\_funct\_1 X0 X2 = k1\_funct\_1 X1 X2)))))) \end{aligned} \quad (4)$$

Assume the following.

$$\forall X0. \forall X1. \forall X2. ((r1\_tarski X0 X1) \wedge (r1\_tarski X1 X2)) \Rightarrow (r1\_tarski X0 X2) \quad (5)$$

Assume the following.

$$\forall X0.((v1\_relat\_1 X0) \wedge (v1\_funct\_1 X0)) \Rightarrow (\forall X1.(r1\_tarSKI X1 X0) \Rightarrow ((v1\_relat\_1 X1) \wedge (v1\_funct\_1 X1))) \quad (6)$$

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.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow (m1\_subset\_1 (k1\_relset\_1 X0 X1) (k1\_zfmisc\_1 X0)) \quad (8)$$

Assume the following.

$$\forall X0.\forall X1.((v1\_relat\_1 X1) \wedge (v4\_relat\_1 X1 X0)) \Rightarrow ((v1\_partfun1 X1 X0) \Leftrightarrow (k1\_relset\_1 X0 X1 = X0)) \quad (9)$$

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.

$$\forall X0.\forall X1.\forall X2.(m1\_subset\_1 X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1))) \Rightarrow (v1\_relat\_1 X2) \quad (11)$$

**Theorem 1**

$$\begin{aligned} & \forall X0.\forall X1.\forall X2.((v1\_funct\_1 X2) \wedge (m1\_subset\_1 \\ & X2 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X3.((v1\_funct\_1 \\ & X3) \wedge (m1\_subset\_1 X3 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 X1)))) \Rightarrow (\forall X4. \\ & ((v1\_funct\_1 X4) \wedge (m1\_subset\_1 X4 (k1\_zfmisc\_1 (k2\_zfmisc\_1 X0 \\ & X1)))) \Rightarrow (((r1\_partfun1 X2 X4) \wedge ((r1\_partfun1 X3 X4) \wedge (v1\_partfun1 \\ & X4 X0))) \Rightarrow (r1\_partfun1 X2 X3)))) \end{aligned}$$